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The American Economic Review

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Directory
of the
American Economic Association
Edited by the Secretary

JANUARY, 1949



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Inquiries and other communications regarding membership, meetings, and the general affairs of the Association, as well as orders for publications, should be addressed to Dr. J. A. Washington Bell, Secretary of the American Economic Association, Northwestern University, Evanston, Illinois.

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PRICE, \$3.00

FOREWORD

Conditions have now become sufficiently stabilized to warrant issuing a new and enlarged directory in the biographical form introduced just ten years ago, in 1938. The last directory of this kind was published in 1942, since when many changes have taken place. Some 2,200 new members have been added to our rolls and the Association has taken on many new activities.

In addition to the usual material found in our biennial handbook, the present directory contains special biographical material indicating "who is doing what and where," a classification of members according to their fields of specialization, and supplementary information and statistical summaries of interest to members of the Association and to economists generally. Features not heretofore contained in the directory are exhibits in the appendix listing names of economists in selected foreign countries; chairmen or heads of departments of economics, deans of schools of business, and directors of research institutes and business bureaus; a check list of domestic and foreign journals (with editors and staff) which are on the exchange list of the *American Economic Review*; and a description of economics as a professional field.

The information concerning the interest and activities was obtained from the answers to a questionnaire addressed to all members last May. A facsimile of the questionnaire appears below. (See back cover.) Of the total of 5,700 members, 3,232 filled out and returned the questionnaire by June 15, 1948, which was the deadline date. Time and expense did not permit follow-up requests. The response was not as good as in 1942 when two out of three members responded, nor 1938 when three out of four sent in returns. However, the results are considered fairly representative, since most of the formally-trained economists or practitioners are included in the descriptive material. A number of our newer members and nonprofessional economists apparently feel that they have nothing significant to contribute; hence did not answer our inquiry.

Some significant changes are noted in the classification of fields of specialization. A Committee on Classification studied our previous classification with great care, and, benefiting from the improvements made by the check list of the National Roster of Scientific and Specialized Personnel and a suggestive and very logical classification proposed by the Committee on the Review of Economics, the committee tested out numerous drafts and finally adopted the classification in its present form. A description of this classification, substantially as it stands, may be found in the *Papers and Proceedings* of the Association, May, 1948, pages 570-572.

With respect to the other items on the questionnaire, comment should be made on question number 7 pertaining to public service record. The Association's Committee on Research, believing that representative publications and research projects under way (items 5 and 6 on the questionnaire) would produce information which might be of such value that it should be called to the attention of the profession, requested that this item be included for their special study. The results of this study may be published as a part of the Research Committee's report, but they are not included here. Also, in the case of item

number 8—membership in other associations—the information is for our officers' use and does not appear as part of the biographical sketch. Cross-references to other "who's who" volumes or professional directories are indicated by abbreviations and are a convenient lead to more complete biographical sketches of a large number of members.

The geographical distribution of members and subscribers (with addresses in the case of the latter group) is listed by country, state, and city. A regional analysis of members and subscribers in the United States and data showing growth of the Association are found in the appendix. Also of interest to our members is the information concerning organizations with which our Association or its members are affiliated.

A final item in the appendix which the editor has been able to include without further enlarging the volume is a brief description of the profession of economist. This description originally composed at the request of the National Roster and thereafter somewhat simplified and popularized by the Roster staff was reviewed by a committee of the Association. After having exhausted a supply of some 150 copies and facing the prospects of paying ten cents a copy for an additional supply, it was decided to reproduce this description for general circulation.

It will probably be several years before another directory will be issued in this form, but it is hoped that by publishing annual supplements to the present directory in the *Proceedings* to cover new members, we may keep up with the growth of the Association.

This new and enlarged edition of the directory has taxed our facilities in the secretarial office to the utmost. On behalf of the Association, I wish to express appreciation to Miss Gertrude Tait, Mrs. Virginia Conklin, and Mr. Howard Neuberg, members of the secretarial staff, for their generous co-operation, without which this volume would not have been possible.

JAMES WASHINGTON BELL, *Secretary*

NOTE ON THE ASSOCIATION'S PUBLICATIONS

1. *The American Economic Review*—a quarterly publication containing main articles, book reviews, bibliographical and personal notes, records of special investigations by individuals and public commissions. Occasional supplements are published on special subjects; e.g., papers relating to the TNEC reports, 1942, and Implemental Aspects of Public Finance, 1944. Attention may be called to the series of photographs of past presidents being run in the *Review*. A limited number of reprints in a form suitable for framing will eventually be available for sale to our members.

2. *The Papers and Proceedings* of the annual meetings of the Association (edited by the Secretary), issued separately in May or as a supplement to the March number of the *Review*—main papers, round table summaries, together with reports of the Secretary, the Treasurer, the Editor, Finance Committee, Auditor, standing and special committees, minutes of the Executive Committee and of the business meetings. The appendix contains a cumulative list of the contents of the *Proceedings* from 1911 and the publications of the Association since 1886.

3. *The Handbook or Directory*—a biennial publication, usually in the form of a directory containing names and addresses of members, together with the year from which dates their continuous membership. The first specialized "who's who" directory was issued in 1938, the second in 1942, and the current one in 1948. The 1905 handbook contained brief biographical sketches of members.

4. *The Information Booklet*—describing the purposes, organization and activities of the Association, designed to answer inquiries from prospective members. Sent free upon request.

5. *The Blakiston Series of Republished Articles on Economics*—published in co-operation with the American Economic Association under the direction of the General Committee on Republications. This committee determines the subjects and appoints special committees to select the articles for each volume. These *ad hoc* committees usually consult a considerable panel of economists in selecting and preparing the final list of articles. Three volumes have so far appeared; namely, *Social Control of Industry*, *Business Cycle Theories*, *Theory and Income Distribution*. A fourth volume on *International Economics* is under way and others are contemplated.

6. *A Survey of Contemporary Economics*—a volume of newly written essays reviews the progress of economics in thirteen selected fields during the past ten or fifteen years. This volume grew out of a program developed and financed by the American Economic Association and carried out under the supervision of the Committee on the Review of Economics, J. J. Spengler, Chairman. The volume was edited by H. S. Ellis and was published in August, 1948, by The Blakiston Company, which has agreed to distribute the volume to members in good standing at a special price of \$3.35, the list price being \$4.75.

PURPOSES OF THE AMERICAN ECONOMIC ASSOCIATION

The American Economic Association is an organization composed of persons interested in the study of political economy or the economic phases of political and social questions. As may be seen by examining the list of members printed in this supplement, not only are all the universities and the most prominent colleges in the country represented in the Association by their teachers of economics and related subjects, but a large number of members come from among businessmen, journalists, lawyers, men in public life, and others interested in economic principles, or, more often, in their applications to social life. The Association has, besides, a growing representation in foreign countries.

The annual meetings, held during the Christmas holidays, are arranged as forums for the discussion of scientific questions and problems of social and economic policy. They give opportunity for contact and general understanding among teachers, students and businessmen interested in such questions. The meetings aim to counteract any tendency to particularism which geographical separation and diverse interests might otherwise foster.

The publications of the Association were begun in March, 1886. The first series of eleven volumes was completed by a general index in 1897. The second series, comprising two volumes, was published in 1897-99, and in addition thereto the Association issued during 1896-99 four volumes of *Economic Studies*. In 1900 a third series of quarterly publications was begun with the Papers and Proceedings of the Twelfth Annual Meeting, and was continued through 1910. *The Economic Bulletin*, issued quarterly and devoted to bibliography and current notes, was also published by the Association during the three years, 1908, 1909, and 1910.

In 1911 the Association began publishing the *American Economic Review*, a quarterly journal devoted to articles on economic subjects, reviews, abstracts of articles in current journals, and a classified bibliography of economic publications. During the thirty-seven years of its existence, the *Review* has made a place for itself among the scientific journals of the country.

The American Economic Association is the organ of no party, sect, or institution. It has no creed. Persons of all shades of economic opinion are found among its members, and widely different views are given a hearing in its annual meetings and through its publications.

With the exception of the editor of the *American Economic Review* and the Secretary-Treasurer, the officers of the Association receive no remuneration for their services. Its entire receipts are expended for the editing, printing, and circulation of the publications and for the annual meetings.

CHARTER AND BYLAWS OF THE AMERICAN ECONOMIC ASSOCIATION

The charter of incorporation of the American Economic Association, incorporated in the District of Columbia, February 3, 1923, provides as follows:

I. The name or title by which the society shall be known is the American Economic Association.

II. The time for which it is organized is perpetual.

III. The particular business and object of the society are as follows:

1. The encouragement of economic research, especially the historical study of the actual conditions of industrial life;

2. The issue of publications on economic subjects;

3. The encouragement of perfect freedom of economic discussion. The Association as such will take no partisan attitude, nor will it commit its members to any position on practical economic questions.

IV. The number of its trustees for the first year of its existence shall be fourteen.

The following bylaws have been adopted for the government of the Association:

I. MEMBERSHIP

1. Any person interested in economic inquiry may, on the nomination of a member, be enrolled in this Association.

2. There shall be six classes of members other than honorary: members paying an annual fee of \$5.00; family members (two or more living at the same address, second membership without subscription to the publications of the Association) paying an annual fee of \$1.00; junior members (available to graduate students for three consecutive years only) paying an annual fee of \$3.00; subscribing members paying an annual fee of \$10.00; contributing members paying an annual fee of \$25.00 or more; and life members comprising those members who contribute \$200.00 or more in a single payment. Life members shall be exempt from annual fees. Members shall have each year the privilege of designating the class of membership they choose for that year.¹

3. Foreign economists of distinction, not exceeding twenty-five in number, may be elected honorary members of the Association.

4. Every member is entitled to receive, as they appear, all reports and publications of the Association.

II. TRUSTEES

The trustees of this Association shall not be less than fourteen or more than fifteen in number, and the Board of Trustees shall be known as the Executive Committee. The Board of Trustees shall be composed of the persons elected as the Executive Committee at the time and place and in the manner set forth in the following bylaw providing for the election of officers.

III. OFFICERS²

1. The Association shall have the following officers who shall be elective officers: a President, two Vice-Presidents, six elected members of the Executive Committee. The terms of office of the President and Vice-President shall each be one year. The terms of office of the six elected members of the Executive Committee shall each be three years, two of the

¹ As amended at the December 28, 1940, annual meeting.

² Amendments as adopted at the annual meeting, December 29, 1933, and by mail ballot announced at the Business Meeting, January 26, 1946.

six terms of the six elected members of the Executive Committee to expire each year. Each regular term of office shall coincide with a calendar year or a multiple thereof.

2. As early in each year as practicable, the President of the Association shall appoint a Nominating Committee, consisting of a past officer,³ as chairman, and not less than five other members of the Association. The names of the Committee shall be published in the March or June issue of the *American Economic Review* with an invitation to the general membership that suggestions of nominees for the various offices be sent to the chairman of the Committee. The Nominating Committee shall be instructed to present to the Secretary of the Association on or before September 1 of each year a nominee for the presidency and two or more nominations for each elective office to be filled, the nominees being members of the Association. The candidate for president shall be selected by an electoral college consisting of the members of the Nominating and the Executive Committees. Space shall be provided on the ballot for the individual voter's alternative choice.³

3. Elective officers shall be chosen through elections to be held during the last three¹ months of the term of office of his predecessor. Each member shall be given the opportunity to vote by mail. The results of the election shall be certified and announced by the Secretary at the annual business meeting.

4. The Association shall have the following officers who shall be appointed by the Executive Committee: a Secretary, a Treasurer, a Managing Editor, and a Counsel. The terms of office of each of these officers shall be three calendar years. The Managing Editor shall, with the advice and consent of the Executive Committee, appoint members to an Editorial Board to assist him. The President may, at his discretion and with the advice and consent of the Executive Committee, appoint a Program Committee.

5. The Executive Committee shall consist of the President, the Vice-Presidents, the Secretary, the Treasurer, the Managing Editor, the three ex-Presidents who have last held office, and six elected members, provided that the Secretary, the Treasurer, and the Managing Editor shall not be entitled to vote in the Committee's meetings.

IV. DUTIES OF OFFICERS

1. The President of the Association shall preside at all meetings of the Association and of the Executive Committee, and in consultation with the Program Committee, shall prepare the programs for the annual meetings. In case of his disability, his duties shall devolve upon the Vice-Presidents in the order of their election, upon the Secretary, and upon the Treasurer.

2. The Secretary shall keep the records of the Association and perform such other duties as the Executive Committee may assign to him.

3. The Treasurer shall receive and have the custody of the funds of the Association, subject to the rules of the Executive Committee.

4. The Executive Committee shall have the control and management of the funds of the corporation. It may fill vacancies in the list of officers, and may adopt any rules or regulations for the conduct of its business not inconsistent with this constitution or with rules adopted at the annual meeting. It shall act as a committee on time and place of meetings and perform such other duties as the Association shall delegate to it. A quorum shall consist of five members.

5. The Editorial Board shall have charge of the publications of the Association. The Managing Editor shall be ex officio member and chairman of the Editorial Board.

6. The office of the corporation for legal purposes shall be at the office of the Counsel in the District of Columbia, and legal process against the corporation may be served on said Counsel.

³ As amended at the December 29, 1938, and December 29, 1941, annual meetings.

V. ANNUAL MEETING

The annual meeting of this corporation shall be held at such time and place as may be determined by the Executive Committee. Notice of such time and place shall be given by publication in the regular journal of the corporation, now known as the *American Economic Review*, at least ten days prior to such meeting. The first annual meeting shall be held at Providence, Rhode Island, on the 27th of December, 1923, at nine o'clock A.M., unless otherwise ordered by the Executive Committee.

VI. AMENDMENTS

Amendments, after having been approved by a majority of the Executive Committee present at a meeting regularly called, may be adopted by a majority vote of the members present at any regular meeting of the Association or by a majority of votes cast in a mail ballot authorized by the Executive Committee.⁴

⁴ As amended at the December 30, 1941, annual meeting.

FACSIMILE OF QUESTIONNAIRE SENT TO MEMBERS

American Economic Association "Who's Who" Directory, 1948

Fill out and return by June 15 to Dr. James Washington Bell, Northwestern University, Evanston, Illinois. NO FOLLOW-UP WILL BE SENT.

The American Economic Association will publish this year a special-purpose biographical directory of its members under the title, *The 1948 Directory of the American Economic Association*. Since another directory of this form will probably not be published in the next four to six years, we urge you to fill out and return this questionnaire before the deadline, so that this volume may be as complete as possible. Immediate response will enable us to start processing returns at once. Neither time nor additional expense will permit follow-up requests.

USE TYPEWRITER IF POSSIBLE—OTHERWISE PRINT

Last Name		First Name		Middle Name	
Mailing Address					
City		Zone Number		State	
1. Institution or Firm Rank or Position (Prof., Pres., etc.) Nature of Activity (Rank in order of importance or time spent — 1, 2, 3, etc.)					
☐ Teaching ☐ Research ☐ Editorial ☐ Dept. Head ☐ Dean ☐ Business ☐ Govt. Service					
2. Place and Year of Birth					
3. Education and Academic or Professional Degrees					
Colleges and Universities		Years Attended (Give only when no degree awarded)		Degrees (If honorary, please indicate)	
				Year Granted	

4. Fields of Specialization or Major (Research) Interest. Indicate, in the order of interest, your three general fields (by inserting 1, 2, and 3 in the appropriate boxes below) and check subdivisions (a, b, etc.) representing your specialized fields, if any. Each member will be listed according to his first choice of general field in the tabulated classification. Second and third fields and specialized subdivisions will be indicated by numbers and letters following name.

(A description of the classification of the fields of economics may be found in the *Papers and Proceedings*, May, 1948, pages 570-572. Minor revisions have been made in this draft.)

- | | |
|---|--|
| ☐ 1. Economic Theory; General Economics
☐ a) Theory
☐ b) History of Theory
☐ c) Mathematical Economics
☐ 2. Economic History; National Economics
☐ a) Economic History
☐ b) National Economics
☐ 3. Statistics and Econometrics
☐ a) Statistical Methods
☐ b) Econometrics
☐ c) Economic Measurements
☐ 4. Economic Systems; Planning and Reform; Co-operation
☐ a) Economic Systems and Policies
☐ b) Planning and Reform
☐ c) Co-operation
☐ 5. National Income and Social Accounting
☐ 6. Business Fluctuations
☐ 7. Money and Banking; Short-term Credit; Consumer Finance
☐ 8. Business Finance; Investments and Security Markets; Insurance
☐ a) Business Finance
☐ b) Investments and Security Markets
☐ c) Insurance
☐ 9. Public Finance
☐ 10. International Economics | ☐ 11. Business Administration
☐ a) Business Organization, Administration, Methods, and Management
☐ b) Marketing and Advertising
☐ c) Accounting
☐ 12. Industrial Organization and Markets; Public Regulation of Business
☐ a) Industrial Organization and Market Controls; Policies Concerning Competition and Monopoly
☐ b) Public Regulation and Control of Business; Public Administration; Operation in War and Peace
☐ 13. Public Utilities, Transportation, Communications
☐ a) Public Utilities
☐ b) Transportation
☐ c) Communications
☐ 14. Industry Studies
☐ a) Manufacturing
☐ b) Construction
☐ c) Service Industries
☐ 15. Land Economics; Agricultural Economics; Economic Geography
☐ a) Land Economics; Conservation of Natural Resources
☐ b) Agricultural Economics; Forestry and Fisheries
☐ c) Mining and Minerals
☐ d) Economic Geography; Regional Planning
☐ e) Urban Land; Housing
☐ 16. Labor
☐ 17. Population; Social Welfare and Living Standards
☐ a) Population; Migration and Vital Statistics
☐ b) Relief, Public Welfare, Pensions, Social Security (including all public programs)
☐ c) Industrial Benefit Programs
☐ d) Consumption Economics |
|---|--|

5. **Representative Publications.** In addition to doctoral dissertation (first line below), list no more than three titles of your most significant publications, identifying them as follows: **D** for Ph.D. dissertation, **B** for book, **M** for monograph, and **A** for article.

D only Title _____
 (Whether published or not)
 Publisher or Journal _____ Date _____
 1. Title _____
 Publisher or Journal _____ Date _____
 2. Title _____
 Publisher or Journal _____ Date _____
 3. Title _____
 Publisher or Journal _____ Date _____

6. **Research Projects Under Way** _____

7. **Public Service Record**

	Branch or Agency	Rank or Title	Approximate Dates	Nature of Functions or Duties
a) Military	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
b) Civilian	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
c) Did your work give you an extensive knowledge of one or more commodity areas, functional aspects of business, labor markets, etc? If so, specify _____				
d) List significant economic reports (qualitative or otherwise) prepared in whole or in part by you. Give approximate date, title, and name of branch or section under which filed. (The Committee on Research desires this information in order to bring such work to the attention of the profession.)				
e) Provide the same information as in (d) above for other significant unpublished documents which you think may escape the attention of the profession.				

8. **Other Associations.** Check membership in other professional associations or learned societies. Indicate offices held, if any, with dates.

☐ Amer. Accounting Asso.	☐ Amer. Marketing Asso.	☐ Indus. Rel. Research Asso.
☐ Amer. Asso. of Univ. Teach. of Ins.	☐ Amer. Political Science Asso.	☐ Inst. of Math. Statistics
☐ Amer. Business Law Asso.	☐ Amer. Sociological Soc.	☐ Royal Economic Soc.
☐ Amer. Farm Economic Asso.	☐ Amer. Statistical Asso.	☐ Rural Sociological Soc.
☐ Amer. Finance Asso.	☐ Econometric Soc.	☐ Soc. for Public Admin.
☐ Amer. Historical Asso.	☐ Economic History Asso.	☐ _____

9. **Other Directories.** Check "who's who" directories in which you are listed.

☐ Who's Who in America	☐ Leaders in Education	☐ _____
☐ Directory of American Scholars	☐ International Who's Who (Europe)	

ALPHABETICAL LIST OF MEMBERS

(as of June 15, 1948)

|| Life members † Contributing members § Subscribing members ‡ Honorary members
 †† Complimentary members * Junior members ** Family members

Note: Date in parentheses indicates year from which dates continuous membership.

ABBOTT, Charles Cortez, Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston 63, Mass. (1928) Harvard Univ., Grad. School of Bus. Admin., prof., teach., res.; b. 1906; A.B., 1928, A.M., 1930, Ph.D., 1933, Harvard. Fields 8, 9, 12. Doc. dis. New York bond market, 1920-30. Pub. Management of federal debt (1946), Financing business during transition (1946) (McGraw-Hill). Dir. W.W. in Amer.

ABBOTT, Edith, Univ. of Chicago, Soc. Sci. Res. Bldg., Chicago 37, Ill. (1905)

ABBOTT, Lawrence, 205 Melbourne Ave., Mamaroneck, N.Y. (1945) Columbia Univ., instr., teach.; b. 1902; A.B., 1924, Harvard; A.M., 1945, Columbia. Fields 7, 6, 9. Pub. Approach to music (Farrar & Rinehart, 1940); Listener's book on harmony (Theodore Presser, 1941). Dir. W.W. in Amer.

ABBOTT, Roy T., 1128 Cottman Ave., Philadelphia 11, Pa. (1944)

ABBOTT, William J., Jr., 401 Delshire Pl., Kirkwood 22, Mo. (1939) Fed. Res. Bank of St. Louis, fin. econ., res.; b. 1905; A.B., 1926, Missouri; 1926-27, Harvard; M.S.B.A., 1939, Ph.D., 1941, Washington Univ. Fields 7, 8a, 9. Doc. dis. Evolution in bank utility.

ABEL, Kenneth N. K., 9202 Worth Ave., Silver Spring, Md. (1944) U.S. Dept. of Com., econ. anal., govt. serv., teach.; b. 1913; A.B., 1935, 1935-36, summer 1940, Southern California; 1936, California; 1941-45, American. Fields 9, 6, 16. Pub. "Activities of the National Mediation Board in 1946," Britannica Book of Year, 1947; "State veterans' bonus payments in 1948," Survey of Cur. Bus., April, 1948, Res. Economic impact of federal government's fiscal position.

ABRAHAM, William I., United Nations, Statist. Office, Lake Success, N.Y. (1948).

ABRAHAMSON, Albert, 76 Federal St., Brunswick, Me. (1927) Bowdoin Col., prof., teach., govt. serv.; b. 1905; A.B., 1926, Bowdoin; A.M., 1927, 1927-28, Columbia. Fields 16, 17b, 13. Pub. Price and price policies (with others) (McGraw-Hill, 1938); "A former WPA administrator looks back at his job," Dun's Rev., June, 1938. Res. Comparison of economics of public and private relief administration.

ABRAMOVITZ, Carrie Glasser (Mrs. Moses), 328 W. 86th St., New York 24, N.Y. (1945) B. 1913; B.A., 1933, Brooklyn; M.A., 1934, Ph.D., 1940, Columbia. Fields 16, 14c, 12b. Doc. dis. Wage differentials, the case of the unskilled (Columbia Univ. Press, 1940). Pub. Trends in the New York clothing industry (with L. Drake) (Inst. of Pub. Admin., 1941); "Some problems in development of communications industry," A.E.R., Sept., 1945; "Union wage policy in bituminous coal," Ind. and Labor Rel. Rev., July, 1948.

ABRAMOVITZ, Moses, 328 W. 86th St., New York 24, N.Y. (1936) Stanford Univ., acting prof. of econ.; Nat. Bur. of Econ. Res., memb. Res. Staff; res., teach.; b. 1912; B.A., 1932, Harvard; Ph.D., 1939, Columbia. Fields 6, 1a, 10. Doc. dis. Price theory for a changing economy (Columbia Univ. Press, 1939). Pub. "Monopolistic selling in a changing economy," Q.J.E., Feb., 1938; "Savings and investment: profits vs. prosperity?" A.E.R. sup., June, 1942; "Role of inventories in business cycles," Nat. Bur. of Econ. Res., Occasional Paper No. 26, 1948. Res. Cyclical fluctuations of manufacturers' stocks.

ABRAMSON, Adolph Granfan, 336 Roslyn Ave., Glenside, Pa. (1942) SKF Industries, Inc., econ., Temple Univ., Evening School, lecturer in statis;

bus., teach., res.; b. 1908; A.B., 1929, West Virginia; M.A., 1936, Ph.D., 1941, Brown. Fields 6, 1, 12. Doc. dis. Theories and measures of competition. Pub. "Cost of production and normal supply price," A.E.R., Sept., 1937; "Problem of full employment," Harvard Bus. Rev., Spring, 1944; "Price policies," Southern Econ. Jour., July, 1945. Res. Individual firm action and business cycle.

ABT, Seymour T. R., 4520 MacArthur Blvd., N.W., Washington 7, D.C. (1948) U.S. Dept. of Com., Office of Int. Trade, Transp. and Com. Br., Railway Sec., chief, govt. serv.; b. 1919; A.B., 1939, New York; M.A., 1940, Columbia; 1946, American. Fields 13b, 10, 9. Pub. "Soviet railways—from present until 1950," For. Com. Weekly, Dec. 28, 1946; "South America's railroads look to future," Railway Age, Dec. 20, 27, 1947; "Foreign inland transport and U.S. international trade," Traffic World, May 22, 1948.

ACHINSTEIN, Asher, 108 Battery Lane, Bethesda, Md. (1922)

ACKERMAN, George Francis, 183 Lincoln Ave., Ridgewood, N.J. (1946) Prentice-Hall, editor; New York Central Railroad Co., lib'n; edit., res., bus.; b. 1919; B.S., 1941, LL.B., 1945, Fordham; 1946-48, New School for Soc. Res. Fields 16, 9, 6. Res. Tax structure of Great Britain and U.S.

ACKERMAN, Sol, 3255 N. 52nd St., Milwaukee 10, Wis. (1944)

ACKLEY, Gardner, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1938) Univ. of Michigan, asso. prof., teach., res., govt. serv.; b. 1915; A.B., 1936, Western Michigan Col.; A.M., 1937, Ph.D., 1940, Michigan. Fields 1a, 5, 6. Doc. dis. Spatial price relations and imperfect competition. Pub. Industrial location and national resources (contributor) (Nat. Res. Plan. Bd., 1942); "Spatial competition in a discontinuous market," Q.J.E., Feb., 1942.

ADAMS, Arthur Barto, Univ. of Oklahoma, Col. of Bus. Admin., Norman, Okla. (1923) Univ. of Oklahoma, Col. of Bus. Admin., dean emeritus and Regents prof. of econ., teach., res.; b. 1887; A.B., 1910, South Carolina; M.A., 1912, Ph.D., 1916, Columbia. Fields 4ab, 1, 10. Doc. dis. Marketing perishable food products (Columbia Univ. Studies, 1916). Pub. Our economic revolution (1933), National economic security (1936) (Univ. of Oklahoma Press); Analyses of business cycles (McGraw-Hill, 1936), Res. How to stop communism. Dir. W.W. in Amer., Lead. in Educa., Int. W.W.

ADAMS, E. Sherman, 11 Buckingham Pl., Norwalk, Conn. (1948)

ADAMS, Eric G., 2100 Claremont Ave., Montreal, Que., Canada. (1944)

ADAMS, George Plimpton, Jr., Cornell Univ., Econ. Dept., Ithaca, N.Y. (1938) Cornell Univ., asso. prof., teach., res.; b. 1909; A.B., 1929, Harvard; 1932-34, Ph.D., 1940, California. Fields 1ab, 2b, 4ab. Doc. dis. Scope and significance of wartime price control (Amer. Coun. on Pub. Affairs, 1942). Res. Comparative structure of contemporary economic systems. Dir. Dir. of Schol.

ADAMS, Ira Gillispie, P.O. Box 1587, College Station, Tex. (1946) Texas A. and M. Col., prof., teach.; b. 1895; 1919, Univ. of Caen, France, A.E.F. Univ., Beaune, France; B.A., 1923, Evansville Col.; M.A., 1927, Minnesota. Fields 16, 1a. Res. Economics of American working man.

ADAMS, James Pickwell, 2020 Devonshire Rd., Ann Arbor, Mich. (1921)

ADAMS, John F., Temple Univ., Dun 160, Phila.



delphia 22, Pa. (1947) Temple Univ., School of Bus. and Pub. Admin., asst. prof. of econ.; fin. consulting; teach., bus., res.; Ed. Cert., B.A., 1940, Linfield Col.; M.A., 1942, Col. of Puget Sound; 1942-43, 1946-48, Pennsylvania. Fields 1, 8, 10. Res. Comparison of British and American life insurance; reconciliation of classical and Keynesian interest theory.

ADAMS, Leonard Palmer, Warren Rd., Ithaca, N.Y. (1930) N. Y. State School of Ind. and Labor Rel., Cornell Univ., prof., dir. of res.; b. 1906; A.B., 1928, Alfred; A.M., 1930, Ph.D., 1935, Cornell Univ. Field 16. Doc. dis. Developments in unemployment insurance in U.S.A. Pub. "Standard industrial classification code," Bur. of Statis. Stand.; Economic brief in defense of N.Y.S. unemployment insurance law (1936).

ADAMS, Leonard W., Syracuse Univ., School of Bus. Admin., Syracuse, N.Y. (1927)

ADAMS, Quincy, ESS, GHQ, FECAC, APO 500, c/o Postmaster, San Francisco, Calif. (1941) Dept. of Army, Tokyo, Japan, Far East Command Allocation Committee, exec. chmn., govt. serv.; b. 1901; 1922-25, Brown; B.A., New York; M.A., American; 1945-46, Columbia. Fields 15cd, 14a, 11ab. Pub. Study of allocation controls of industrial materials in U.S., 1940-43 (American Univ., 1944); Challenge of Japan (Clarkson Col., 1947); "Business success—what are the odds?" Dun's Rev., June, July, 1946, Res. Problems of production, use, and allocation of critical industrial materials. Dir. W.W. in Amer.

ADAMS, Robert William, 179 Washington Ave., Garden City, N.Y. (1946) Standard Oil Co. (N.J.), asst. econ. bus., res.; b. 1918; B.S., 1940, Northwestern; 1941-43, 1946, M.I.T. Fields 6, 5, 1ac.

ADAMS, Thomas Caldwell, 242 S. 12th East St., Salt Lake City, Utah. (1929)

ADAMS, Walter, Michigan State Col., Dept. of Econ., East Lansing, Mich. (1946) Michigan State Col., asst. prof., teach., res.; b. 1922; B.A., 1942, Brooklyn; 1942-43, Chicago; M.A., 1946, Ph.D., 1947, Yale. Fields 1ab, 12, 2b. Doc. dis. A theory of Indian economic development. Pub. Economics of Gustav Schmoller (Brooklyn Col., 1941); Readings in economics: principles and problems (Macmillan, 1948).

ADAMS, Walter Bailey, 8253 S. Ingleside Ave., Chicago 19, Ill. (1947) U.S. Dept. of Com., Civil Aeronautics Admin., analyst, govt. serv., bus.; b. 1910; Radio Inst. of Amer., Nat. Acad. of Design, Univ. of Chicago. Fields 13bc, 3, 4ab.

ADAMS, Water W., 826 S. Park, Saginaw, Mich. (1948) Chevrolet Saginaw Mfg. Div. of General Motors, bus.; b. 1896; Univ., Heidelberg; Dr. rer. pol., 1920, Breslau; Univ., Rome. Fields 1ab, 7, 11ac.

ADAMSON, Raymond King, 27476 Sunnydale, Detroit 23, Mich. (1934)

ADELMAN, Morris A. (Ibert), Mass. Inst. of Tech. Dept. of Econ., Cambridge 39, Mass. (1945) M.I.T., asst. prof., res., teach.; b. 1917; B.S.S., 1938, City of New York; Ph.D., 1948, Harvard. Fields 12a, 14ac, 8a. Doc. dis. The dominant firm, with special reference to the A & P Company. Pub. "Interest rates and 'fair return,'" Jour. of Land and Pub. Util. Econ., Aug., 1948; "Monopoly and Anti-trust," Harvard Law Rev., Oct., 1948. Res. Classification of legal, economic, and business materials relating to certain important types of market structures.

ADLER, Anne Victoria, Univ. of Toledo, Toledo, Ohio. (1947) Univ. of Toledo, instr., teach.; b. 1917; 1935-37, Milwaukee-Downer; B.A., 1939, Wisconsin; M.A., 1943 (in abs.), North Carolina. Fields 16, 1, 7.

ADLER, Hans Arnold, 525 West End Ave., New York 24, N.Y. (1943) OMG for Germany, Banking Sec., chief, govt. serv.; b. 1921; B.A., 1941, Cornell Univ.; M.A., 1943, Ph.D., 1944, Harvard. Fields 7, 10, 9. Doc. dis. Some effects of population changes on economic development and business cycles. Pub. "Absolute vs. relative rate of change in population growth," Q.J.E., 1944. Res. Reorganization of German banking system, 1945-48.

ADLER, John Hans, 30 Harte St., Baldwin, L.I., N.Y. (1941) Fed. Res. Bank of N.Y., econ., res.; b. 1912; Dr. jur., 1937, Univ. of Prague; M.A., 1941, Ph.D., 1946, Yale. Fields 10, 9, 7. Doc. dis. Determination of volume of foreign trade of U.S. 1920-38. Pub. "British and American shipping policies," Polit. Sci. Quar., June, 1944; "U.S. import demand in inter-war period," A.E.R., June, 1945; "Postwar demand for American exports," Rev. of Econ. Statis., Feb., 1946. Res. Fiscal and credit problems in El Salvador; industrialization of underdeveloped areas.

*ADREAN, Tony Harry, 41734 Coronado Ter., Los Angeles 26, Calif. (1947) Univ. of Southern California, student; b. 1918; 1936-37, Oklahoma A. and M.; A.B., 1948, Southern California. Fields 1a, 4a, 2b.

AFROS, John L., Econ. Div., USACA, APO 777, c/o Postmaster, New York, N.Y. (1946)

†AFTALION, Albert, 60 rue Michel Ange, Paris 16, France. (1938)

AGGER, Eugene Ewald, Rutgers Univ., New Brunswick, N.J. (1902) Rutgers Univ., prof., dept. head; b. 1879; A.B., A.M., 1902, Cincinnati; Ph.D., 1907, Columbia. Fields 7, 9, 1a. Doc. dis. The budget in the American commonwealths (Columbia Univ. Series, 1907). Pub. Organized banking (Hy Hall, 1918); Henry Clay's economics for the general reader (editor) (Macmillan, 1918); Money and banking today (Reynal and Hitchcock, 1941). Dir. W. W. in Amer., Dir. of Schol., Lead. in Educa.

AIDENOFF, Abraham, 1628 21st St., N.W., Washington, D.C. (1948) U.S. Dept. of Com., Bur. of Census, Office of Statis. Asst. to Dir., econ., govt. serv., res., edit.; b. 1913; B.A., 1934, Chicago; George Washington. Fields 3, 16, 17bc. Pub. Unemployment compensation during the war years, Illinois (1946), A proposal for disability insurance in Illinois (1946), Experience rating in Illinois, 1942-45 (1946) (Ill. Div. of Place. and Unemp. Comp.). Res. Relationship between establishment statistics of Bureau of Old Age and Survivors insurance and censuses of manufacture and business.

AIKIN, Ann McIntyre, New York State Col. of Home Econ., Cornell Univ., Ithaca, N.Y. (1942) Cornell Univ., asst. prof., teach., res.; b. 1913; 1931-32, Muskingum Col.; B.S., 1935, Colorado State Col. of A. and M.; M.A., 1938, Michigan State Col.; Ph.D., 1942, Cornell Univ. Fields 17d, 7, 9. Doc. dis. A study of credit bureaus from consumer's point of view, New York State. Pub. "Community credit policies," Credit World, 1942; Family laundry practices and costs (Cornell Univ. Agric. Exp. Sta., 1948); "Family finances in 1948," Young Farmers and Homemakers Newsletter, Jan., 1948. Res. Financial problems connected with handling decedent estates of rural families.

AITCHISON, Beatrice, 1929 S St., N.W., Washington 9, D.C. (1940) I.C.C., statis. anal., govt. serv., res.; b. 1908; A.B., 1928, Goucher; A.M., 1931, Ph.D., 1933, Johns Hopkins; M.A., 1937, Oregon. Fields 13b, 12b, 3c. Doc. dis. On the mapping of locally connected continua into simple continuous arcs (Proceed. of Warsaw [Poland] Acad. of Sci. and Let., 1935). Pub. Preliminary examination of factors affecting demand for rail passenger travel (1941), Mathematical description of class rate scales (1943) (I.C.C., Bur. of Statis.); Weight density and value as factors in classification of freight (I.C.C., Bur. of Transport Econ. and Statis., 1946). Res. Index of freight rates.

*AITCHISON, Clyde Bruce, 1929 S St., N.W., Washington 9, D.C. (1943) I.C.C., commissioner, dept. head govt. serv., res.; b. 1875; B.S., 1893, LL.D., 1918, Hastings Col.; M.A., 1915, LL.D., 1937, Oregon; Ph.D., 1932, American. Fields 13b, 12b, 1a. Doc. dis. Development in Great Britain of system of railway regulation (until first World War). Pub. Annotations of Iowa decisions (Lawyers Coop. Pub. Co.); Interstate Commerce Acts annotated, Vols. 1-8 (Govt. Printing Office, 1930, 1934); "Evolution of the Interstate Commerce Act," George Washington Law Rev., 1937.

AKERMAN, Clement R., 2, Washougal, Wash. (1941) Reed Col., emeritus prof. of econ., teach., res.; b. 1879; A.B. 1898, Georgia; 1898-99, Berlin, Tuebingen; 1902-04, Berlin, Heidelberg; A.M., 1914, Harvard. Fields 1a, 10, 2a. Pub. "Economist and economic nationalism," 1933, "Agricultural subsidies, old and new," 1934, Proceed., Pacific Coast Econ. Asso.; "Some aspects of war finance," Pacific Rev. (Univ. of Washington), 1921. Res. Economic history of Pacific Northwest.

AKERSTROM, Clarence Edwin, 19 Beaman St., Poultney, Vt. (1936)

ALAT, Heshmat, 2702 Wisconsin Ave., Washington 7, D.C. (1946)

ALAVI, Hamza Ali, c/o State Bank of Pakistan, Karachi, Pakistan. (1948) State Bank of Pakistan, asst. controller, dept. head; b. 1921; B.A., 1942, Univ. of Bombay; M.A., 1944, Muslim Univ. Fields 10, 7, 2b. Pub. "Cheap money policy in India," Res. Bank of India Bul., Apr., 1947.

***ALBERS, Henry H.**, Yale Univ., 213 Sheffield Hall, New Haven, Conn. (1948) Yale Univ., asst. in instruction, teach., res.; b. 1919; B.A., 1941, M.A., 1946, Iowa; 1947-48, Yale. Fields lab, 11a, 16. Pub. "Cut out that waste motion," Des Moines Sunday Register, Sept. 7, 1947.

ALBERY, Michael, 9765 N. Martindale Ave., Detroit 4, Mich. (1948) Ford Motor Co., Int. Div., econ. and fin. analyst; Univ. of Detroit, instr.; bus., teach., res.; b. 1898; Ph.D., Lausanne; M.B.A., Berlin. Fields 10, 11, 1. Doc. dis. Le Petrole (Agence Générale de Librairie, Paris, 1929). Pub. Zinc, lead and subsidiary industries (Institut Slaski, Librairie Mianowski, 1936); Sales organization of industrial enterprises (Organization, 1923); "International zinc cartel," Jour. of Ministry of Com., 1928. Res. Social legislation in South American countries. Dir. Int. W.W.

***ALBRECHT, V.** Norman, Hotel Brunswick, 520 Boylston St., Boston 16, Mass. (1945)

ALCHIAN, Armen Albert, Univ. of California, Dept. of Econ., Los Angeles 24, Calif. (1943) Univ. of California, asst. prof.; Project Rand, consultant; teach., res.; b. 1914; A.B., 1936, Stanford; 1940, Columbia; 1941, Harvard; Ph.D., 1943, Stanford. Fields 1a, 3a, 6. Doc. dis. Effects on employment of general change in wage rates. Pub. "Uses and meaning of equations and models," Proceedings, Pacific Coast Econ. Asso., 1947; Statistics Section, Mathematics Dictionary (D. van Nostrand, 1948); Statistical research methods, Army Air Force psychological research program (U.S. Army Air Forces and U.S. Govt. Printing Office, 1948). Res. Difference equations in business cycle analysis.

ALDEN, Lucas Avery, 24 Polo Field Lane, Lake Success, L.I., N.Y. (1941) W. R. Grace and Co., asst. treas., bus.; b. 1911; B.S., 1931, Ph.D., 1935, California Inst. of Tech. Fields 8, 5, 13. Doc. dis. Intensity relationships in complex spectra.

ALDERFER, Evan Benner, Fed. Res. Bank, Philadelphia 1, Pa. (1934) Fed. Res. Bank of Philadelphia, indus. econ. res., edit.; b. 1901; B.S., in Econ., 1924, Wharton; Ph.D., 1935, Pennsylvania. Fields 14a, 6. Doc. dis. Earnings of skilled workers in a manufacturing enterprise (Indus. Res. Dept., Wharton School, 1935). Pub. Economics of American industry (McGraw-Hill, 1942).

ALDERSON, Wroe, Lewis Tower, 33rd Fl., Philadelphia 2, Pa. (1939)

ALEKSANDROWICZ, Ignacy, Hobart Col., Geneva, N.Y. (1947) Hobart and William Smith Colleges, asso. prof., res., teach., edit.; b. 1891; Dr. of Laws and Polit. Sci., 1914, Univ. of Kraków; Univ. of Lwów; Univ. of Vienna. Fields lab, 4a, 16. Pub. "The American relief in Poland after the First World War," Bul. of Ministry of Soc. Welfare (Polish Govt. in Exile, London); "The situation of the displaced persons in 1944," Post-war Problems (American Jewish Committee). Res. Labor unions in a planned economy (Poland).

ALEXANDER, Charles K., 510 Virginia Ter., Madison, Wis. (1940)

ALEXANDER, Robert Jackson, 122 Louis St., New Brunswick, N.J. (1947) Teach., res.; b.

1918; B.A., 1940, Columbia Col.; M.A., 1941, Columbia. Fields 16, 2, 3a. Pub. Labour movements of Latin America (Fabian Pub., Ltd., 1947); What do you know about British labor? (Rand School Press, 1946); "Industrialization of Latin America," N.Y. Herald-Tribune, May 15, 1948. Res. History of organized labor in Latin America; study of labor relations in Chile.

ALEXANDER, Sidney S., Dept. of Econ., Littauer Center, Cambridge, Mass. (1944)

ALEXANDER, Thomas Robert, 1121 Euclid St., N.W., Washington 9, D.C. (1943)

ALIVIA, Gavino, Via Cagliari 2, Sassari, Sardinia, Italy. (1946)

***ALLAWAY, Richard**, Cornell Univ., 319 McFaddin, Ithaca, N.Y. (1946)

ALLEN, Clark Lee, Duke Univ., Dept. of Econ., Durham, N.C. (1940) Duke Univ., asso. prof., teach., res.; b. 1910; A.B., 1932, McKendree Col.; M.A., 1938, Washington Univ.; Ph.D., 1942, Duke. Fields 1a, 10, 5. Doc. dis. Effects of utilization of synthetic fibers on textile industry. Pub. Problems for economic analysis (Prentice-Hall, 1948); "Rayon staple fiber: its past and its prospects," Southern Econ. Jour., Oct., 1946. Res. International trade and general equilibrium theory. Dir. Who Knows.

ALLEN, Edward Jones, Univ. of Denver, Denver 10, Colo. (1922) Univ. of Denver, dean of academic admin., prof. of econ., teach.; b. 1898; A.B., 1921, Colorado Col.; A.M., 1923, Ph.D., 1936, Columbia. Fields 16, 4, 17. Doc. dis. Second United Order among Mormons (Columbia Univ. Press, 1936). Dir. W.W. in Amer., Lead. in Educa.

ALLEN, Edward Lawrence, 3550 Martha Custis Dr., Alexandria, Va. (1945) U.S. Air Force, intelligence specialist, govt. serv. bus.; b. 1913; B.S., 1946, Columbia; M.A., 1946, Ph.D., 1948, American. Fields 12b, 9, 1a. Doc. dis. U.S. versus aluminum monopoly.

ALLEN, Harland Hill, 28 E. Jackson Blvd., Chicago 2, Ill. (1928) Roosevelt Col., dean; Growth Industry Shares, pres.; bus., res.; 1911-13, Dakota Wesleyan; A.B., 1916, A.M., 1917, Colorado Teachers Col.; 1919-21, Chicago. Fields 8b, 4b, 11a. Pub. Whither interest rates (Harper, 1940); Business man's stake in American Soviet friendship (1944). Dir. W. W. in Amer., in Com. and Ind.

ALLEN, Harry Kenneth, 1501 W. University Ave., Champaign, Ill. (1936) Univ. of Illinois, prof., teach., res.; b. 1897; B.S., 1920, M.S., 1933, Ph.D., 1936, Illinois. Fields 9, 7, 10. Doc. dis. Efficiency and economy in local government—with particular reference to Illinois (Condensation, Univ. of Illinois, Bur. of Econ. and Bus. Res., 1936). Pub. Principles of public finance (with M. H. Hunter) (Harper, 1940); Control of expenditures in local governmental units of Illinois (Univ. of Illinois, 1940); "Ability-to-pay theory and private property," Tax Rev., 1948. Res. Pertaining to state and local tax problems in Illinois. Dir. W. W. in Amer.

ALLEN, Jesse Bishop, Talawanda Apt. 5, Oxford, Ohio. (1947) Miami Univ., asst. prof., teach.; b. 1914; A.B., 1941, Berea; M.S., 1942, Indiana; 1946-47, Chicago. Fields 11b, 12a, 10. Pub. "Methods of selecting and training salesmen in the Miami valley," Miami Bus. Rev., May, 1948.

ALLEN, Jesse Knight, Grad. School of Bus., Stanford University, Calif. (1947) Stanford Univ., asso. prof., teach., res., bus.; b. 1904; B.S., 1926, Brigham Young; M.B.A., 1930, Ph.D., 1939, Stanford. Fields 8a, 7, 11c. Doc. dis. Significance of laun credit administration to banking in California. Pub. Federal lending and thrift agencies in California (Calif. Bankers Asso., 1938); Forced saving and national defense (Bank of Amer., 1941).

ALLEN, Ruth Alice, Box 1695 Univ. Sta., Austin 12, Tex. (1928) Univ. of Texas, prof. of econ., teach.; b. 1889; B.A., 1921, M.A., 1923, Texas; Ph.D., 1933, Chicago. Fields 2a, 16, 17. Doc. dis. Labor of women in production of cotton (Univ. of Texas Press, 1930). Pub. Great south-

- west strike (1942), chapters in History of organized labor in Texas (1941) (Univ. of Texas Press). Dir. W. W. in Amer., Lead. in Educa.
- ALLEN, Stanton, 2977 N. Summit Ave., Milwaukee, Wis. (1948)
- ALLEN, William Henry, Jr., 409 Edgecombe Ave., New York 32, N.Y. (1947) Howard Univ., instr., teach., res.; b. 1920; A.B., 1946, Howard; A.M., 1947, 1947-48, Columbia. Fields 16, 6, 1a. Res. Collective bargaining in railroad industry—a study of federal wage policies (doc. dis.).
- ALLEX, Victor, 4405 First Pl., N.E., Apt. 31, Washington 11, D.C. (1944)
- ALLEY, W(illiam) Edward, 2612 Kingman Blvd., Des Moines 11, Iowa. (1942) Drake Univ., prof. of econ., dept. head, teach., res.; b. 1903; A.B., 1926, De Pauw; M.A., 1932, Ph.D., 1941, Illinois. Fields 7, 1, 4. Doc. dis. Nationalization of central banks.
- ALLIN, Bushrod Warren, U.S. Dept. of Agric., Bur. of Agric. Econ., Washington 25, D.C. (1948)
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- *ALPERT, Myer, 8 Andover Ct., Cambridge 38, Mass. (1948)
- ALT, Richard Melton, Johns Hopkins Univ., Baltimore, Md. (1940) Johns Hopkins Univ., asso. prof., teach., res.; b. 1910; A.B., 1932, A.M., 1940, Ph.D., 1946, Harvard. Fields 12a, 14, 11b. Doc. dis. Department store price policies. Pub. "Statistical measurement of price flexibility," Q.J.E., 1942. Res. Retail price policies; problems in business economics. Dir. W. W. in Amer. Educa.
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- ALTHOEN, Paul, 1664 Russett Ave., Dayton 10, Ohio. (1946)
- ALTMAN, Oscar Louis, 502 6th St., S.W., Washington 4, D.C. (1930) Int. Monetary Fund, admin. asst. to managing dir., govt. serv.; b. 1909; A.B., 1929, A.M., 1930, Cornell Univ.; Ph.D., 1936, Chicago. Fields 9, 5, 6. Doc. dis. Chicago's experiment in personal property taxation. Pub. Saving, investment and national income (TNEC Mono. 37, 1941); "Role of courts in personal property tax cases," Ill. Law Rev., 1937; "Actuarial analysis of operating life of B-29 aircraft engines," Jour. of Amer. Statis. Assn., 1946. Res. Taxation of employees of international organizations. Dir. Dir. of Schol.
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- ALVORD, Graham Gillette, Kittery Point, Md. (1946)
- ALYEA, Paul Edgar, Box 1483, University, Ala. (1928) Univ. of Alabama, prof. of fin., teach., res., govt. serv.; b. 1899; B.S., 1923, M.S., 1927, Ph.D., 1934, Illinois. Fields 9, 7, 8a. Doc. dis. Theory of the gold standard. Pub. Alabama's balancing budget (Ala. Bur. of Pub. Admin., 1941); Alabama revenue system (pub. as Report of Ala. Revenue Survey Committee, 1947). Res. Interstate tax barriers.
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- AMBS, K. F., La Sierra Col., Arlington, Calif. (1942)
- ANDERSON, A. Mabel, 1708 Lamont St., N.W., Washington 10, D.C. (1946)
- ANDERSON, Benjamin McAlester, 306 Georgina Ave., Santa Monica, Calif. (1911) Univ. of California at Los Angeles, Connell Prof. of Banking; Capital Research Co., consult. econ.; Economists' Nat. Com. on Monetary Pol., pres.; res., teach.; b. 1886; A.B., 1906, Missouri; A.M., 1910, Illinois; Ph.D., 1911, Columbia. Fields 7, 1a, 6. Doc. dis. Social value (Houghton Mifflin, 1911). Pub. Value of money (Macmillan, 1917; Richard R. Smith, 1936); Chase Econ. Bul. (Chase Nat. Bank, 1920-37); Economic Bul. (Capital Res. Co., since 1939). Res. Financial and economic history of U.S., 1914-46. Dir. W.W. in Amer., Int. W.W.
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- ANDERSON, David Fleetwood, 247 Canterbury Rd., Westfield, N.J. (1934)
- *ANDERSON, Doie A., New York Univ., School of Com., Room 432, Washington Sq., New York 3, N.Y. (1946) New York Univ., instr., teach.; b. 1917; B.S. in Econ., 1940, Wharton, Pennsylvania; M.B.A., 1942, 1942-43, 1946-48, New York. Fields 13ab, 8b, 15c.
- ANDERSON, Don Sherman, 2863 Beechwood

Circle, Arlington, Va. (1938) U.S. Dept. of Agric., Prod. and Mktg. Admin., Dairy Br., asst. dir., govt. serv.; b. 1897; B.S., 1919, 1922-23, 1929-31, Minnesota. Field 15. Pub. Economic standards of government price control (TNEC, Part II, Mono. No. 32, 1941); "Consumer and the Agricultural Adjustment Administration," Jour. of Mktg., July, 1936; "Prices and the agricultural problem," Jour. of Farm Econ., Feb., 1938.

ANDERSON, George R., Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1941) Univ. of Michigan, lecturer. teach.; b. 1906; A.B., 1928, Northern State Teachers Col.; A.M., 1933, Michigan. Fields 9, 12a, 4b.

*ANDERSON, Graydon Keith, Univ. of Wisconsin, Dept. of Econ., Sterling Hall, Madison 6, Wis. (1947) Univ. of Wisconsin, Dept. of Econ., instr., teach., res.; b. 1915; B.A., 1938, Willamette Univ.; 1940, Minnesota; 1946-48, Wisconsin. Fields 1ab, 10, 7. Pub. Utility operation and taxation in Oregon (joint author) (Ore. State Tax. Com., Util. Div., 1940). Res. America's role in public and private international lending, 1917-47 (doc. dis.).

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*ANDERSON, John E., 2329 N. 4th St., Albuquerque, N.M. (1948)

ANDERSON, Karl L., 600 Fulton Ave., Falls Church, Va. (1944)

ANDERSON, Kurt Arthur William, 5926 Kensington Rd., Detroit 24, Mich. (1939) Labor consult., bus., res., teach.; b. 1905; 1925-26, 1927-28, Illinois; B.A., 1930, Pittsburgh; M.A., 1931, Cornell Univ. Fields 16, 7, 1. Pub. "A Detroit case study in the group talking technique," Personnel Jour., July-Aug., 1948. Dir. W.W. in Labor.

**ANDERSON, Lois M. (Mrs. Paul H.), c/o Loyola Univ., New Orleans 15, La. (1945) B. 1916; A.B., 1939, Eureka Col.; M.A., 1940, Illinois; 1942-44, Western Reserve; summer, 1943, Ohio State. Fields 11ab, 3a. Dir. W.W. in Amer. Educa.

ANDERSON, Melvin Arvid, Jr., 155 E. 49th St., Apt. 7G, New York, N.Y. (1947)

ANDERSON, Paul H., Loyola Univ., Col. of Bus. Admin., New Orleans 15, La. (1944) Loyola Univ., prof. of mktg., teach., res.; b. 1911; A.B., 1937, Ohio Univ.; M.S., 1938, Ph.D., 1940, Illinois. Fields 11b, 3ac, 1c. Doc. dis. Distributions in stratified sampling (Annals of Math. Statist., Mar., 1942). Pub. State, regional, and local market indicators, 1939-46 (U.S. Dept. of Com., 1948); "Figuring potential-demand quotas," Western Adv., April, 1948; "Sales potentials in small towns," Adv. and Sell., Jan., 1945. Res. Postal receipts for market measurement; analysis of industrial market and identification of its parts. Dir. W.W. in Amer. Educa.

ANDERSON, Robert Earle, 11 Sussex Ave., Chatham, N.J. (1945) Retired; b. 1881; C.E., 1903, Princeton; 1903-04, Univ. of Glasgow. Fields 13b, 10, 6. Pub. Merchant Marine and world frontiers (Cornell Maritime Press, 1945); "Trade frontiers," South., May, 1947, et seq.; "Policing ocean highways," Sea Power, Sept., 1945. Dir. W.W. in Amer.

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ANDERSON, Thomas Joel, Jr., 600 Hunt Lane, Manhasset, N.Y. (1922) New York Univ., asso. prof. of econ., teach., res.; b. 1898; B.S. in B.A., 1922, A.M., 1923, Missouri; Ph.D., 1934, New York. Fields 12, 7, 1. Doc. dis. Federal and state control

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ANDERSON, William, Univ. of Minnesota, Dept. of Polit. Sci., Minneapolis 14, Minn. (1943) Univ. of Minnesota, prof. of polit. sci.

ANDERSON, William H., 10335 S. Harvard Blvd., Los Angeles 44, Calif. (1944) Univ. of Southern California, asso. prof., teach., res.; b. 1905; B.A., 1928, LL.B., 1938, Ph.D., 1945, Wisconsin. Fields 9, 13a, 5. Doc. dis. Modernization of federal estate and gift taxation. Pub. "Supreme Court and recent public utility valuation theory," Feb., 1945, "Public utility holding companies: the death sentence and the future," Aug., 1947, Jour. of Land and Pub. Util. Econ. Res. Constructive federal death taxation.

ANDERSON, Henry Fredrik, 504 S. Warren Ave., Big Rapids, Mich. (1945) Hanchett Mfg. Co., cost accountant, bus.; b. 1907; A.B., 1940, A.M., 1941, Southern California. Fields 9, 7, 1a.

ANDJIANO, Peter B., 1431 Newton St., N.W., Washington 10, D.C. (1943)

ANDRESS, Allen Eugene, Box 164, Hiram, Ohio. (1934) Hiram Col., prof. of econ., dept. head, teach.; b. 1904; A.B., 1925, Doane Col.; 1927-28 Morningside Col.; M.A., 1929, Clark Univ. (Mass.); Ph.D., 1939, Princeton. Fields 1, 7, 11c. Doc. dis. Minimum wage legislation and administration in New Jersey, 1933-38.

ANDREW, Charles F., 2300 1st National Bldg., Oklahoma City 2, Okla. (1948)

ANDREWS, Arnold, 220 Broadway, New York 7, N.Y. (1946) Monthly Wall St. reports and market forecasts, bus., edit.; b. 1894; Cert. Econ., 1925, Jena; Ph.D., 1927, Grad School of Laws and Econ., Jena. Fields 8ab, 7, 6. Doc. dis. Capitalization of German corporations after the war (Spaeth & Linde, Berlin-Wien, 1927). Pub. "Liquidity within the inflation period of banking business," Year Books of Econ. and Statist. (Jena), 1926; "Significance of Taft-Hartley labor bill," USA-Switzerland, Rev. of Trade, Ind., and Culture (Basel), 1947.

†ANDREWS, Benjamin Richard, 6 Woodbine St., Mayfair Park, Burlington, Vt. (1917) Columbia Univ., Teachers Col., emeritus prof. of household econ., teach.; b. 1877; A.B., 1901, A.M., 1903, Cornell Univ.; Ph.D., 1909, Columbia. Fields 17bd, 15c. Doc. dis. Museums of education (Teachers Col. Record). Pub. Education for the home (4 buls., U.S. Bur. of Educa., 1915); Economics of the household (Macmillan, 1923; rev. ed., 1935).

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ANDREWS, William Halstead, Jr., 214 E. 5th St., Bloomington, Ind. (1937)

ANDRON, Mortimer, 3009 Lomita Rd., Santa Barbara, Calif. (1940) Univ. of California, Santa Barbara Col., asst. prof.; Project Rand, Douglas Aircraft Co., econ. consult.; teach., res.; b. 1916; A.B., 1936, California at Los Angeles; M.A., 1939, Oregon; Ph.D., 1942, Illinois. Fields 1ab, 4a, 5. Doc. dis. Economic theory in light of modern social psychology. Pub. "Renegotiation Act," Opinion and Comment (Univ. of Illinois), 1944.

ANDRUS, J. Russell, American Embassy, Rangoon, Burma. (1937)

ANGELL, James Waterhouse, Columbia Univ., New York 27, N.Y. (1924) Columbia Univ., prof.

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- ANGUS, William Newton, Clinton Rd., Bedford Hills, N.Y. (1921) William Angus, Inc., pres., treas., bus.; b. 1901; A.B., 1922, Columbia Col.; M.E., 1925, Columbia. Fields 14b, 16, 15de.
- ANJARIA, Jashwantra Jayantlal, Int. Monetary Fund, 1818 H St., Washington 6, D.C. (1947) Int. Monetary Fund, Res. Dept., Far East Div., asst. chief, res.; b. 1908; M.A., 1932, Bombay; M.S. Econ., 1936, London. Fields lab, 10, 15. Pub. Indian rural problem (with Sir Manilal Nanavati) (Indian Soc. of Agric. Econ., Bombay, 1945); Price control in India (Popular Book Depot, Bombay, 1946).
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- ANSHEEN, Melvin, Indiana Univ., School of Bus., Bloomington, Ind. (1945) Indiana Univ., prof. of mktg., teach., res.; b. 1912; A.B., 1933, M.B.A., 1935, D.C.S., 1940, Harvard. Fields 11ab, 12, 14ac. Doc. dis. Recent changes in demand for department store goods and services. Pub. Controlling war production (Columbia Univ. Press, 1948); Modern marketing (McGraw-Hill, 1939); An introduction to business (Macmillan, 1942). Res. Policies and techniques of social control of business.
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- ANTHONY, Donald Elliot, Kent, Ohio. (1923) Kent State Univ., Dept. of Bus. Admin., dept. head, teach., res.; b. 1899; B.A., 1922, Stanford; M.A., 1923, Cornell Univ.; Ph.D., 1928, Stanford. Fields 16, 12b, 4a. Doc. dis. Problems of women and children in canning industry of central California. Pub. "How collective bargaining works," Ch. 12, Rubber products (Twentieth Century Fund, 1942); "Filipino labor in central California," Sociology and Soc. Res., Nov.-Dec., 1931; "An economist looks at the last decade," Torch, Oct., 1941. Dir. Dir. of Schol.
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- *APPELMANS, Jacques Marie, Princeton Univ., Grad. Col., Princeton, N.J. (1947) Princeton Univ., student; b. 1924; Dr. of Law, 1946, Licence in Notaryship, 1947, Catholic Univ. of Louvain. Fields 9, 10, 7.
- AQUINO, Tranquillino Bautista, 4520 MacArthur Blvd., N.W., Washington 7, D.C. (1945) Bur. of the Census, econ. govt. serv.; b. 1907; A.B., 1933, M.A., 1935, California; since 1937, American, Georgetown. Fields 12b, 14a, 3a.
- ARANT, Willard David, 4056 Linden Ave., Western Springs, Ill. (1948) Swift & Co., bus., res., edit.; b. 1911; B.A., 1933, Oregon; A.M., 1940, Harvard. Fields 1a, 9, 16. Pub. "Wartime meat policies," Jour. of Farm Econ., Nov., 1946; Defense planning: a national need (1940), Taxing excess profits (1940) (Nat. Econ. League).
- ARBUTHNOT, Charles Criswell, 2263 Demington Dr., Cleveland 6, Ohio. (1904) Western Reserve Univ., prof. emeritus of bus. and econ.; b. 1876; B.S., 1899, LL.D. (Hon.), 1916, Geneva Col.; Ph.D., 1903, Chicago. Fields 12a, 7, 16. Doc. dis. Development of industrial corporation and function of entrepreneur (abstract, Univ. of Chicago, Humanistic Series, 1927-28). Pub. "Factor system as related to industrial combinations," J.P.E., 1907; "A stabilized dollar would produce violent changes in periods of falling prices," A.E.R., 1920; "Liberal arts college and vocational education," Bul. of Asso. of Amer. Col., May, 1939. Dir. W.W. in Amer., Dir. of Schol.
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- ARIZ, Jorge Mena, 7a. Calle Poniente 4, Santa Ana, El Salvador, C.A. (1946)
- ARLT, Carl T., 131 Forest St., Oberlin, Ohio. (1946)
- ARMBRUSTER, Adolph Henry, Box 534, Athens, Ohio. (1932) Ohio Univ., Col. of Com., dean, prof. of fin.; b. 1895; A.B., 1918, Western Reserve; M.B.A., 1921, Harvard. Fields 8ab, 11ac, 1ab. Dir. W.W. in Amer.
- ARMORE, Sidney J., 4239 First St., S.E., Washington 20, D.C. (1946) U.S. Dept. of Agric., Bur. of Agric. Econ., econ. statis., govt. serv., res.; b. 1914; A.B., 1937, Brooklyn; 1945, Harvard; 1940-44 (intermittently), American. Fields 3, 11b, 15c. Pub. Hingham looks ahead: a plan for its future (with R. J. Lehde) (Chamber of Com., Hingham, Mass., 1945). Res. Analysis of economic factors affecting consumption, prices, and uses of fats and oils.
- ARMSTRONG, A. B., North Texas Agric. Col., Arlington, Tex. (1938) North Texas Agric. Col., dept. head, teach.; b. 1893; A.B., 1918, M.A., 1924, Arkansas; summers, 1927, 1929, 1930, Northwestern; 1932-33, Washington Univ. Fields 13b, 2a, 1a. Pub. "What about inflation?" Dallas Morning News, 1941; "Lotteries," Southwest. Soc. Sci. Quar., 1945. Res. History of Texas and Pacific Railway (doc. dis.).
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- ARMSTRONG, Robert Helms, 12 E. 41st St., New York 17, N.Y. (1934) Armstrong Associates, pres.; Appraisal Jour., editor-in-chief; bus., edit., res.; b. 1900; A.B., 1922, Columbia. Fields 15c, 6, 8b. Pub. Decentralization in New York City (Urban Land Inst., 1941); "Future urban land valuation," Jan., 1945, "Critical assumptions in real estate appraising," Jan., 1947, Appraisal Jour. Dir. W.W. in Com. and Ind.
- ARNDT, Ernst H. D., Office of the Registrar of Banks, The Treasury, Pretoria, S. Africa. (1923)
- ARNDT, Karl Matthews, Univ. of Nebraska, Lincoln 8, Neb. (1925) Univ. of Nebraska, prof., teach., res.; b. 1901; Litt.B., 1922, Notre Dame; 1922-24, Univ. of Louvain. Field 7.
- ARNER, George Byron Louis, 504 Aspen St., N.W., Washington 12, D.C. (1910) U. S. Dept. of Agric., govt. serv.; b. 1883; B.Litt., 1904, Baldwin-Wallace; A.M., 1906, Ph.D., 1908, Columbia; sum-

mer, 1908, Chicago. Fields 10, 15ab, 17a. Doc. dis. Consanguineous marriages (Columbia Univ. Press, 1908). Pub. Elements of socialism (with J. Spargo) (Macmillan, 1912). "Land values in New York City," Q.J.E., 1922; Indian population of the U.S. and Alaska (Bur. of Census, 1936). Dir. Dir. of Schol., W.W. in East, in Nation's Capital.

ARNOLD, Arthur Z., 133 W. 71st St., New York 23, N.Y. (1931) New York Univ., prof. of econ., teach., res.; b. 1898; LL.B., 1921, Hamilton; B.A., 1926, George Washington; M.S., 1928, Ph.D., 1937, Columbia. Fields 1b, 3a, 4b. Doc. dis. Banks, credit and money in Soviet Russia (Columbia Univ. Press, 1937). Pub. Curbing inflation through taxation (Symposium) (Tax Inst., 1944). Res. Russian economy; history of economic thought; statistical methods. Dir. W.W. in Amer. Educa.

ARNOLD, Robert H., 46 N. Summit Ave., Chatham, N.J. (1948) N.J. Bell Tel. Co., personnel asst. on staff of vice-pres., bus.; b. 1915; B.S., 1937, Lafayette Col.; 1948, New York. Fields 16, 13c, 10. Res. International civil aviation organization.

ARNOLD, Sam, Ohio State Univ., Bur. of Bus. Res., Columbus 10, Ohio. (1946)

ARNOLDS-PATRON, Paul, 400 Maple Ave., Danville, Ky. (1942) Centre Col., assoc. prof. of econ., teach., res.; b. 1899; 1918-19, Univ. of Bonn; 1919-21, Univ. of Cologne; B.S., 1936, M.B.A., 1937, New York. Fields 7, lab, 2a.

*ARROW, Kathryn Smul (Mrs. Philip), 412 Linden Lane, Falls Church, Va. (1943) Com. on Pub. Admin. Cases, staff memb., res.; b. 1918; B.A., 1938, Barnard Col.; M.A., 1939, 1939-40, Columbia; 1942-43, American. Fields 12b, 17b, 10.

ARROW, Philip, 412 Linden Lane, Falls Church, Va. (1942)

*ARONSON, Robert Louis, Princeton Univ., Dept. of Econ. and Soc. Inst., Princeton, N.J. (1945) Princeton Univ., part-time instr., teach.; b. 1917; B.A., 1940, M.A., 1941, Ohio State; M.A., 1948, Princeton. Fields 15, 17b, 4b.

*ARRILL, Daniel, 534 W. 124th St., New York 27, N.Y. (1947) Col. of City of New York, tutor, teach.; b. 1921; B.S., 1942, City of New York; M.A., 1948, Columbia. Fields 1a, 5, 10.

ARRINGTON, Leonard James, Utah State Agric. Col., Econ. Dept., Logan, Utah. (1946) Utah State Agric. Col., asst. prof., teach.; b. 1917; B.A., 1939, Idaho; 1939-41, North Carolina; 1941-42, North Carolina State Col. Fields lab, 6, 12. Res. Economic contributions of Mormon Church to Rocky Mountain Area, 1847-1947 (doc. dis.).

ARROW, Anita, 749 West End Ave., New York 25, N.Y. (1944) Standard Oil Co. (N.J.), econ. anal.; Hunter Col., instr.; res., teach.; b. 1925; B.A., 1945, Hunter Col.; M.A., 1947, Chicago; 1947-48, Columbia. Fields 6, 10, 1.

*ARROW, Kenneth Joseph, 749 West End Ave., New York 25, N.Y. (1945) Cowles Com. for Res. in Econ., res. asso.; Univ. of Chicago, inst. in econ.; res., teach.; b. 1921; B.S. in Soc. Sci., 1940, City of New York; M.A., 1941, 1941-42, 1946-47, Columbia. Fields 3ab, lac, 4ab. Res. An axiom system for economic dynamics; theory of aggregation.

ARTHUR, Henry Bradford, Swift & Co., Union Stock Yards, Chicago 9, Ill. (1940) Swift & Co., econ., dept. head, bus., res.; b. 1904; A.B., 1926, Union Col.; M.A., 1931, Ph.D., 1935, Harvard. Fields 11a, 8, 12a. Doc. dis. Wholesale price work of U.S. Bureau of Labor Statistics (in part in Rev. of Econ. Statis., Aug., 1935). Pub. "Inventory profits in business cycle." A.E.R., Mar., 1938; "What do bond yield differentials forecast?" Harvard Bus. Rev., Winter, 1938; "Selected individual commodities and recent cyclical fluctuations in business," Rev. of Econ. Statis., Nov., 1932. Dir. W.W. in Amer.

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ASCH, Mildred B., 4607 Connecticut Ave., N.W., Washington 8, D.C. (1948) State Dept., econ., govt. serv.; b. 1919; B.A., 1940, Hunter. Fields 10, 14a, 15c.

ASHBROOK, Arthur Garwood, Jr., 4762 Duke Sta., Durham, N.C. (1947) Duke Univ., asst. prof., teach., res.; b. 1921; B.S., 1941, Haverford; Ph.D., 1947, M.I.T. Fields 5, 1a, 6. Doc. dis. A federal wage-price policy for full employment economy.

ASHBURN, Karl Everett, Univ. of Tulsa, Tulsa, Okla. (1948) Univ. of Tulsa, prof. of econ. and mgt., dept. head, teach., res.; b. 1904; A.B., 1926, A.M., 1928, Texas Christian; Ph.D., 1934, Duke. Fields 1, 11a, 4. Doc. dis. Economic aspects of cotton production in Texas. Pub. Texas Workmen's Compensation Act and its administration (State of Tex., 1939); Economic resources of U.S.A. (Arnold Found., 1938); "Economic and human aspects of inflation," Tex. Spectator, 1947. Res. Economic and human aspects of federal bureaucracy.

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*ASHIDA, James Haruso, International House, 1414 E. 59th St., Chicago 37, Ill. (1947) Univ. of Chicago, student; b. 1920; B.A., 1941, Univ. of Washington; M.A., 1947, Pennsylvania; 1947, 1948, Chicago. Fields 10, 7, 1a.

ASHMEN, Roy, Univ. of Kansas, School of Bus., Lawrence, Kans. (1942) Univ. of Kansas, Mktg. Dept. head, prof., teach., res.; b. 1910; B.S., 1935, Drexel Inst.; M.S., 1936, Columbia; 1936-39, Northwestern. Fields 11, 3a. Res. Wholesale butter price quotations at Chicago (doc. dis., Northwestern).

ASHTON, Herbert, 29 Elliott Rd., Westmoreland Hills, Washington 16, D.C. (1928) Indus. Col. of Armed Forces, asst. chief, sec., teach., res., govt. serv.; b. 1890; A.B., 1911, C.E., 1913, Cornell Univ.; special certificate, 1919, Grenoble Univ.; M.A., 1933, Ph.D., 1936, Harvard. Fields 13ab. Doc. dis. An economic analysis of element of speed in transportation. Pub. "Some considerations in measurement of productivity of railway workers," J.P.E., Oct., 1938; "Railroad costs and volume of traffic," A.E.R., June, 1940; "Meaning and general aspects of integration," Soc. Sci., Oct., 1945. Res. Adequacy of our railroad system to meet another emergency; Federal Power Commission split over natural gas industry investigation.

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*ASPIS, Daniel, 2162 Valentine Ave., Bronx, New York 57, N.Y. (1948)

ATKINS, David, Coastways Ranch, Pescadero, San Mateo Co., Calif. (1928)

ATKINS, Paul Moody, 199 Inwood Ave., Upper Montclair, N.J. (1915) Consult. econ., bus., res.; b. 1892; B.A., 1914, M.A., 1915, Yale; 1919-23, Univ. of Chicago, Armour Inst. of Tech.; Docteur de l'Université de Paris, 1925, Univ. of Paris; 1933-35, New York. Fields 10, 8ab, 11ac. Doc. dis. L'Enseignement de la Comptabilité des Prix de Revient dans les Universités et Ecoles Supérieures aux États-Unis (Librairie de l'Enseignement Technique, 1925). Pub. Industrial cost ac-

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- *ATKINSON, Thomas Roth**, Univ. of Wisconsin, Sterling Hall, Madison 6, Wis. (1944) Univ. of Wisconsin, grad. asst., teach.; b. 1922; A.B., 1943, Denison; M.A., 1948, Wisconsin. Fields 1a, 7, 9.
- **ATKINSON, Willeyln Morelle (Mrs. L. Jay)**, 320 N. Piedmont St., Apt. 4, Arlington, Va. (1946) Bd. of Gov. of Fed. Res. System, econ., res.; b. 1910; B.S., 1936, Virginia. Fields 1a, 9, 5.
- ATKISSON, James R.**, 2, Box 722, Sanger, Fresno Co., Calif. (1944)
- ATLAS, Martin**, 2500 Que St., N.W., Washington 7, D.C. (1942) Cafritz Co., tax counsel, bus., res.; b. 1914; A.B., 1934, New York; A.M., 1935, 1935-36, Columbia; LL.B., 1944, George Washington. Fields 9, 8ab, 14a. Pub. "Doctrine of estoppel in tax cases," Tax Law Rev., Oct.-Nov., 1947; "Clifford regulations: genesis of concept," Tex. Law Rev., April, 1947; "Average income and its use in taxation," Acctg. Rev., June, 1938. Res. Problems of fluctuating income and averaging for income tax purposes.
- ATTERBERRY, Phil Russell**, 5801 Linder Lane, Bethesda 14, Md. (1944)
- AUBLE, Arthur Glen**, Northwestern Univ., School of Com., Evanston, Ill. (1947) Northwestern Univ., asst. prof. of bus. statis., teach., res.; b. 1917; A.B., 1938, Hastings Col.; M.A., 1940, Nebraska; M.A., 1942, Harvard. Fields 3ac, 6, 1a. Res. Depressions of 1873 and 1882 in U.S. (doc. dis.).
- AUERBACH, Samuel Jerome**, 651 Alabama Ave., Brooklyn 7, N.Y. (1938) Graphic econ., prof., bus.; b. 1915; 1932-36, Cooper Union. Fields 8b, 6, 14.
- AUL, Harold Edward**, 1 Wall St., New York 5, N.Y. (1942) Calvin Bullock, vice-pres.; Columbia Univ., lecturer; dept. head, teach.; A.B., 1918, Columbia. Fields 8, 14, 7.
- AULL, George Hubert**, Clemson Col., Clemson, S.C. (1928) Clemson Col. and S.C. Agric. Exp. Sta., prof., dept. head, res., teach.; b. 1899; B.S., 1919, Clemson Col.; M.S., 1928, Virginia; Ph.D., 1937, Wisconsin. Fields 15ab, 9, 14c. Doc. dis. Some inequalities of taxation in South Carolina (Univ. of Wisconsin and S.C. Exp. Sta., 1937). Pub. Rural land holdings in South Carolina (1940). Postwar economic outlook in an agricultural-industrial area (1945) (S.C. Agric. Exp. Sta.); "Employment prospects in southern agriculture," Southern Econ. Jour., 1947. Res. Economic and social effects of land use adjustments; market potentials in selected areas; influence of technological improvements on distribution of costs and returns in agriculture. Dir. W.W. in Amer., in Com. and Ind., in Educa., Dir. of Schol., Lead. in Educa.
- AUSTIN, Charles Burgess**, 1159 E. Foothill Blvd., Altadena, Calif. (1911)
- AUSTIN, Robert Carter**, Austin Co., Greenville, Tenn. (1947) Austin Co., vice-pres., bus., res.; b. 1919; B.A., 1940, Tennessee; Univ. of Habana; Univ. Nac. de Mexico; M.A., 1942, Harvard. Fields 15b, 12, 10. Res. Parity influence on U.S. tobacco production and consumption (doc. dis.).
- AUSTRIAN, Janet**, Survey Res. Center, Univ. of Michigan, Ann Arbor, Mich. (1941) Survey Res. Center, study dir., res.; b. 1918; A.B., 1939, Bennington Col.; 1939-41, Columbia. Fields 5, 17d, 6.
- AUXIER, C. Carson**, 2120 Forest Glen Rd., Silver Spring, Md. (1946)
- AXE, Emerson Wirt**, E. W. Axe and Co., P.O. Box 157, Tarrytown, N.Y. (1921)
- AXELSON, Ivar**, 1920 Granada Blvd., Coral Gables 34, Fla. (1941)
- *AXFORD, Herbert Melvin**, 2929 University Ave., Madison, Wis. (1948)
- *AXINN, Mrs. S.**, 124 S. 39th St., Philadelphia, Pa. (1948)
- AYLSTOCK, Earl Jennings**, South-Western Pub. Co., 634 Broadway, Cincinnati 2, Ohio. (1948) South-Western Pub. Co., Col. Dept., mgr., bus., edit.; b. 1897; Com. E., 1931, Cincinnati; 1945, Princeton. Fields 11a, 8a, 3a.
- AYRE, Josephine**, Civil Transp. Sec., GHQ, SCAP, APO 506, c/o Postmaster, San Francisco, Calif. (1946)
- AYRES, Clarence Edwin**, Univ. of Texas, Austin 12, Tex. (1932) Univ. of Texas, prof., teach.; b. 1891; A.B., 1912, A.M., 1914, Brown; Ph.D., 1917, Chicago. Fields 1ab, 4ab, 2a. Doc. dis. Nature of relationship between ethics and economics (Univ. of Chicago Studies in Philos., 1918). Pub. Problem of economic order (Rinehart, 1938); Theory of economic progress (Univ. of North Carolina Press, 1944); Divine right of capital (Houghton Mifflin, 1946). Res. Meaning of value in social analysis and policy. Dir. W.W. in Amer.
- AYRES, Edith**, Palisades, Rockland Co., N.Y. (1931)
- BABIONE, Francis A.**, 140 Hartswick Ave., State College, Pa. (1947) Pennsylvania State Col., asst. prof. of econ., teach., res.; b. 1910; B.S. in B.A., 1931, Miami Univ.; M.A., 1932, 1933 and 1940, Ohio State. Field 11ab. Res. Marketing equipment by leasing (doc. dis.).
- BABSON, Paul T.**, 210 Newbury St., Boston 16, Mass. (1945)
- BABSON, Roger W.**, 370 Washington St., Wellesley Hills, Mass. (1910) Babson's Reports, Inc., chmn. of bd.; Bus. Statistics Organization, chmn. of bd.; b. 1875; B.S., 1898, M.I.T.; LL.D., 1927, Florida, 1937, Elion Col., 1938, Hendrix Col., 1939, Amer. Theol. Sem., 1940, Lebanon Valley Col., Stetson Univ. Fields 6, 3, 8. Pub. Business fundamentals (Harpers, 20th ed., 1947); If inflation comes (Lippincott, 32nd ed., 1943); Actions and reactions (Harpers, 2nd ed., 1937). Res. Relation of patents to living standards. Dir. W.W. in Amer., Lead. in Educa., Int. W.W.
- BACH, George Leland**, Carnegie Inst. of Tech., Pittsburgh 13, Pa. (1941) Carnegie Inst. of Tech., dept. head, prof., teach., res., govt. serv.; b. 1915; A.B., 1936, Grinnell Col.; Ph.D., 1940, Chicago. Fields 7, 6, 1a. Doc. dis. Price level stabilization: some theoretical and practical considerations. Pub. Economic analysis and public policy (co-author) (Prentice-Hall, rev. 1948); "Monetary-fiscal policy, debt policy, and price level," A.E.R., May, 1947; "Commercial and industrial loans at member banks," Fed. Res. Bul., Aug.-Sept.-Nov., 1942. Res. Commercial bank investment policy and credit rationing. Dir. Dir. of Schol., Lead. in Educa.
- BACHELOR, Robert Willard**, Amer. Bankers Asso., 12 E. 36th St., New York 16, N.Y. (1944) Amer. Bankers Asso., Res. Council, dir., res., bus.; b. 1900; B.B.A., M.B.A., 1921, Univ. of Washington; 1923, California. Fields 7, 3b, 6. Pub. Country bank's portfolio of U.S. government securities (Amer. Bankers Asso., 1944); "Banking affairs," American Yearbook, 1943-48; Statistical reports covering the Works Program (WPA, 2nd ed., 1936). Res. Proposed changes in

bank reserves; observations concerning an unrestricted market for gold.

BACKMAN, Jules, 780 St. Marks Ave., Brooklyn 13, N.Y. (1935) New York Univ., School of Com., Accts., and Fin., asso. prof. of econ.; econ. consult.; teach., res., edit.; b. 1910; B.C.S., 1931, A.M., 1932, M.B.A., 1933, D.C.S., 1935, New York. Fields 12, 14ac, 16. Doc. dis. Government price fixing (Pittman, 1938). Pub. War economics (with E. Stein) (Farrar & Rinehart, 1942); Wages and prices (Found. of Econ. Educa., 1947); Behavior of wages (with M. R. Gainsbrugh) (Nat. Indus. Conf. Bd., 1948). Res. Economics of surety business, with application to rate making. Dir. W.W. in East, in Com. and Ind.

BACON, Marvin A., 8720 Cameron, Silver Spring, Md. (1937) U.S. Bur. of Budget, fiscal anal., govt. serv.; b. 1907; B.A., 1929, Ph.D., 1941, Michigan; M.A., 1931, Ohio State. Fields 9, 3, 1a. Doc. dis. Shifting of gasoline tax and its effect on consumption. Pub. Income as an index of fiscal capacity of Michigan counties (Univ. of Michigan Press, 1941); Your rights of review when government questions your income tax (1947, 1948). How an unincorporated business may convert an operating loss into a refund on previous year income taxes (1948) (U.S. Dept. of Com.).

BADER, Louis, 331 Grand St., Brooklyn, N.Y. (1947)

BADGER, Ralph Eastman, 2656 Penobscot Bldg., Detroit 26, Mich. (1921) Investment Counsel, Inc., pres.; Ralph E. Badger Associates, senior partner; A.B., 1913, Dartmouth; M.C.S., 1914, Amos Tuck; Ph.D., 1921, Yale. Fields 8b, 13a, 3a. Doc. dis. History of marketing of hardware in U.S. Pub. Valuation of industrial securities (1925), Investment principles and practice (1928) (Prentice-Hall). Dir. Int. W.W.

BADGLEY, L. Durward, 40 Knollwood Rd., Short Hills, N.J. (1944) Mutual Life Ins. Co. of N.Y., res. assoc., res.; b. 1898. Fields 15de, 17a, 14. Pub. Housing demand of workers in Manhattan (Corlears Hook Group, New York, N.Y., 1938); Real Estate Econ., monthly bul., 1933-35 (Badgley & Co., East Orange, N.J.); "Long-term outlook for construction, real estate, and mortgage investment," Appraisal Jour., Jan., 1946. Res. Real estate cycle; estimates of volume and distribution of mortgage lending in U.S.; demand for housing and volume of construction; economic background and growth trends of cities.

BAER, Werner, 109-15 Queens Blvd., Forest Hills, N.Y. (1938) Hunter Col. instr. in econ., res., teach.; b. 1907; Ph.D., 1933, Univ. of Frankfurt (Main). Fields 10, 6, 14. Doc. dis. Zur Frage der rechtlichen Selbststaendigkeit der Zweigniederlassung (Frankfurt, 1933). Pub. "Prosperity and equality," Soc. Res., Mar., 1943; Economic factors bearing on establishment of minimum wages in stone, clay, glass, and allied industries (U.S. Dept. of Labor, New York, 1943). Res. Customs unions and free-trade areas.

BAER, Willis Nissley, 822 Pennsylvania Ave., Bethlehem, Pa. (1937) Moravian Col. for Men, prof. of econ. and bus. admin., dept. head; b. 1889; B.A., 1917, Franklin and Marshall; M.A., 1929, Wharton, Pennsylvania; Ph.D., 1933, Columbia. Fields 7, 8ab, 11ac. Doc. dis. Economic development of cigar industry in U.S. (Art Prgt. Co., Lancaster, Pa., 1933). Pub. "Economic position of cigar leaf tobacco industry in Lancaster County, Pennsylvania," Jour. of Amer. Fin. Asso., 1943; "Abuses in use of economics for furtherance of political ends," Jour. of Com., 1942. Dir. Dir. of Schol. Lead. in Educa.

BAGLEY, Edgar S., Kansas State Col., Dept. of Econ., Manhattan, Kans. (1948) Kansas State Col., asso. prof., teach., res.; b. 1914; B.A., 1935, M.A., 1936, California, at Los Angeles; 1937-40, Iowa. Fields 12a, 1a, 10.

BAGLEY, Eleanor Sauer (Mrs. William C., Jr.), North Dr. Lawrencebrook Manor, New Brunswick 9, N.J. (1937) Mutual Life Ins. Co. of N.Y., res. asso., res.; b. 1917; B.A., 1936, Mount Holyoke; M.A., 1937, 1937-38, Columbia. Fields 7,

8, 15e. Pub. Our national debt and our savings (with J. J. O'Leary and S. Foster) (Com. on Pub. Debt Policy, 1948).

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BAGWELL, (Ida) Lucile, 44 Slocum Crescent, Forest Hills, N.Y. (1940) Fed. Res. Bank of N.Y., sr. statis.; b. 1892; A.B., 1914, A.M., 1915, Converse Col.; 1937-39, New York. Field 10. Pub. "Business income and business profits," Jour. of Bus. of Univ. of Chicago, Oct., 1929. Dir. W.W. in East.

BAHAR, Mathilde (Mrs. Bernard Topkis), 1316 New Hampshire Ave., N.W., Washington, D.C. (1942) Dept. of Army Office of Quartermaster General, econ. asst., Planning and Research, For. Aid Br., chief, govt. serv., res., bus.; b. 1898; B.A., 1938, George Washington; M.A., 1939, Columbia. Fields 17, 2, 1.

BAHN, Ralph, 2834 Que St., S.E., Washington 20, D.C. (1945) U.S. Pub. Health Serv., Hospital Div., budget and fiscal officer, govt. serv.; b. 1916; 1933-36, City of New York; B.A. (Econ.), 1942, George Washington. Fields 11a, 1a, 17bd.

BAILER, Lloyd Harding, 112-20 178th Pl., St. Albans 12, N.Y. (1938)

BAILEY, Robert Warren, 9501 Lincolnwood Dr., Evanston, Ill. (1940)

BAIN, Joe Staten, Univ. of California, Econ. Dept., Berkeley 4, Calif. (1943) Univ. of California, asso. prof., teach., res.; b. 1912; A.B., 1935, California at Los Angeles; 1935-36, Stanford; A.M., 1939, Ph.D., 1940, Harvard. Fields 12, 14a, 1a. Doc. dis. Valuation and depreciation of durable capital goods. Pub. Economics of Pacific Coast petroleum industry (Univ. of California Press, 3 vols., 1944-47); Pricing, distribution, and employment (Holt, 1948); "Profit rate as measure of monopoly power," Q.J.E., Feb., 1941. Res. An empirical study of relation of market structure to price behavior in twenty selected industries.

BAIRD, FRIEDA, 4110 E. Marquette Ave., Albuquerque, N.M. (1926)

BAKER, Alonzo L., 3905 Wisconsin Pl., Los Angeles 37, Calif. (1945)

BAKER, Carl Oscar, Edison High School, Stockton, Calif. (1926)

BAKER, (Mrs.) Elizabeth Faulkner, Barnard Col., Columbia Univ., New York 27, N.Y. (1921) Barnard Col., prof. of econ., dept. head, teach., res.; B.L., 1914, California; A.M., 1919, Ph.D., 1925, Columbia. Fields 16, 11, 8. Doc. dis. Protective labor legislation (Columbia Univ. Press, 1925). Pub. Displacement of men by machines (Columbia Univ. Press, 1933); "At the crossroads in legal protection of women," Annals of Amer. Acad. of Polit. and Soc. Sci., May, 1929; "Unemployment and technical progress in commercial printing," A.E.R., Sept., 1930. Res. Technologic change and printing pressroom foremen. Dir. W.W. in Amer.

BAKER, George Pierce, Harvard Bus. School, 202 Morgan Hall, Soldiers Field, Boston 63, Mass. (1928)

BAKER, Harold Bruss, General Motors Inst., Flint 2, Mich. (1936) General Motors Inst., admin. chmn., dept. head; b. 1909; A.B., 1931, Heidelberg Col.; M.B.A., 1932, Ph.D., 1940, Northwestern. Fields 11a, 16, 12a. Doc. dis. Tobacco marketing cooperatives in Miami Valley, Ohio (abridged in American Cooperation 1941, 1942). Pub. Mediation and arbitration of labor disputes by state agency in Indiana (Butler Univ., 1942); "Planning for production control," Modern Mgt., Oct., 1945.

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- BAKER, Howard Parks**, 518 S. Williams, Columbia, Mo. (1946)
- BAKER, John Austin**, 3030 S. Buchanan St., Arlington, Va. (1946) U. S. Dept. of Agric., Produc. and Mktg. Admin., agric. econ., res.; b. 1914; B.S.A., 1935, Arkansas; M.S.A., 1937, 1938-39, Wisconsin. Fields 15ab, 11ab, 1ab. Pub. "Toward a theory of land income," Jour. of Land and Pub. Util. Econ., Mar., 1945; "Farm tenure in farm tenancy situation," Univ. of Arkansas Agric. Exp. Sta. Bul., June, 1939; Tenure status and land use patterns in Corn Belt (U.S. Dept. of Agric., Bur. of Agric. Econ., 1939). Res. Farmers' soybean storage problems; economic implications of solvent extraction of cottonseed oil.
- BAKER, Nancy Hart** (Mrs. H. Dean), 28 Delaware Ave., Dumont, N.J. (1941)
- BAKER, Oliver P.**, 15478 Pinehurst, Detroit 21, Mich. (1928) Automobile Mfrs. Assn., Parts Packaging and Handling Com., secy.; bus.; b. 1902; A.B., 1924, Bates Col.; M.A., 1927, Yale. Fields 11ab, 12a, 17a.
- BAKKE, Edward** Wight, 333 Cedar St., New Haven 11, Conn. (1939) Yale Univ., Labor and Mgt. Center, dir., Sterling Prof. of Econ., teach., res.; b. 1903; B.A., 1926, Northwestern; Ph.D., 1932, Yale. Fields 16, 17b. Doc. dis. The unemployed man (Nisbet and Co., Ltd., Sept., 1933). Pub. The unemployed worker (1940), Citizens without work (1940) (Yale Univ. Press); Mutual survival (Harper, 1946). Res. Structure and dynamics of human relations in industry. Dir. W.W. in Amer., in Com. and Ind., Dir. of Schol., Lead. in Educa.
- BAKKEN, Henry H.**, 2218 Chadbourne Ave., Madison 5, Wis. (1930) Univ. of Wisconsin, agric. econ. prof., res., teach.; b. 1896; B.A., 1922, M.A., 1924, Wisconsin; 1929-30, Harvard. Fields 4c, 1a, 10. Pub. Economics of cooperative marketing (McGraw-Hill, 1937); Cooperation to the Finnish (Mimir, 1939); Pioneers in Dakota Territory, 1879-89 (editor) (Norwegian-Amer. Hist. Assn., 1943). Res. Marketing Wisconsin tobacco; consumer preferences for potatoes and marketing techniques. Dir. W.W. in Amer. Educa.
- BALABANIS, Homer Paul**, 332 Laurel Dr., Arcata, Calif. (1944) Humboldt State Col., vice-pres., dean of arts and sciences, prof. of econ., teach.; b. 1897; Ph.B., 1920, A.M., 1923, Chicago; Ph.D., 1931, Stanford. Fields 7, 10. Doc. dis. Acceptance banking and discount market in U.S. Pub. American discount market (Univ. of Chicago Press, 1934). Dir. Lead. in Educa., W.W. on Pacific Coast, in Com. and Ind.
- BALDERSTON, C. Canby**, Univ. of Pennsylvania, Wharton School, Philadelphia 4, Pa. (1935) Wharton School, dean; b. 1897; B.S. in Econ., 1921, M.A., 1923, Ph.D., 1928, Pennsylvania. Fields 11, 8, 14. Doc. dis. Managerial profit sharing (Wiley, 1928). Pub. Management of an enterprise (co-author) (Prentice-Hall, 1935); Executive guidance of industrial relations (Univ. of Pennsylvania Press, 1935); Profit sharing for wage earners (Ind. Rel. Coun., 1937). Dir. W.W. in Amer., Dir. of Schol.
- BALDWIN, Charles Franklin, Jr.**, 2101 Fort Davis St., S.E., Apt. B, Washington 20, D.C. (1943)
- BALDWIN, Claude David**, Baldwin Finance Co., 1549 Glenarm Pl., Denver 2, Colo. (1939) Baldwin Fin. Co., secy.-treas.; Baldwin Motor Co., partner; Univ. of Denver, Col. of Com., part-time instr.; bus., teach.; b. 1917; B.S., 1937, Denver; M.S., 1938, Ph.D., 1940, Illinois. Fields 1ab, 4a, 9. Doc. dis. Economic planning: its aims and implications (Univ. of Illinois Press, 1942). Pub. Principles of economics (Amer. Accountants Trng. Assn., Oklahoma City, 1946); "Theory of economic planning," Opinion and Comment (Univ. of Illinois Press), Feb. 11, 1941.
- BALL, (Mrs.) Irene O.**, 320 E. 53rd St., New York, N.Y. (1942)
- BALL, Robert M.**, Amer. Coun. on Educa., 744 Jackson Pl., N.W., Washington 6, D.C. (1947) Amer. Coun. on Educa., Com. on Educa. and Soc. Sec., asst. dir.; b. 1914; A.B., 1935, A.M., 1936, Wesleyan Univ. Field 17b. Pub. "Social insurance and right to assistance," Soc. Serv. Rev., Sept., 1947.
- BALLAINE, Wesley Charles**, Univ. of Oregon, School of Bus. Admin., Eugene, Ore. (1939) Univ. of Oregon, prof. of bus. admin. and econ.; Oregon Bus. Rev., edit.; teach.; b. 1906; A.B., 1927, M.B.A., 1931, Univ. of Washington; Ph.D., 1940, Chicago. Fields 7, 10, 1ab. Doc. dis. Development and economic aspects of laws regulating investments of mutual savings banks (Univ. of Chicago, abstract, 1945). Pub. Problem of stable exchange rates (Univ. of Oregon, Bur. of Bus. Res., 1946); "How government purchasing procedures strengthen monopoly elements," J.P.E., Dec., 1943; "Oregon's business outlook for coming year," Ore. Bus. Rev., Jan., 1948.
- BALLANTINE, Robert Woods**, 161 Graduate Col., Princeton, N.J. (1946) Princeton Univ., grad. student; b. 1923; A.B., 1946, Kenyon Col.; 1946-48, Princeton. Field 2a.
- BALLES, John J.**, 604 E. Rich St., Apt. 8, Columbus 15, Ohio. (1947)
- BALLING, Franz Karl**, 1875 Commonwealth Ave., Auburndale 66, Mass. (1947) Boston Col., prof. of econ., teach., res.; b. 1895; Dr. Jur., 1920, Univ. of Vienna; Ph.D., 1943, Fordham. Fields 1a, 10, 15d. Doc. dis. Methodology of business cycle research. Pub. Unconditional surrender and unilateral declaration of peace, Amer. Polit. Sci. Rev., June, 1945; "Problem of post-war Germany," Jour. of Cent. European Affairs, Apr., 1945. Res. Austria's postwar economy.
- BALLINGER, Roy Arthur**, U.S. Cuban Sugar Council, 136 Front St., New York 5, N.Y. (1933)
- BAMBRICK, James J., Jr.**, 107-30 79th St., Ozone Park, L.I., N.Y. (1941)
- BAMPTON, James W.**, James Lees and Sons Co., Bridgeport, Pa. (1945)
- BANCROFT, E(verett) Clair**, Colgate Univ., Econ. Dept., Hamilton, N.Y. (1919)
- BANCROFT, Gertrude**, 3016 Dumbarton Ave., Washington 7, D.C. (1935)
- BANGS, Robert B.**, 1606 Ripon Pl., Alexandria, Va. (1940)
- BANNER, Paul H.**, 8029 Eastern Ave., Silver Spring, Md. (1947)
- BARAN, Paul Alexander**, c/o Fed. Res. Bank, 33 Liberty St., New York, N.Y. (1942)
- BARATZ, Morton Sachs**, 467 Montauk Ave., New London, Conn. (1947) Univ. of Connecticut, instr.; New London Fruit and Produce Co., asst. secy.; teach., bus.; b. 1923; 1940-41, N.L. Jr. Col.; B.A., 1947, Connecticut; 1947-48, Yale. Fields 1b, 4ab, 2b.
- BARBASH, Bernice**, 2475 85th St., Brooklyn 14, N.Y. (1947) Research; b. 1923; B.A., 1944, Hunter Co.; 1944-48, New School for Soc. Res. Fields 14ac, 1c, 3ac.
- BARBASH, Jack**, 201 N. Wells St., Chicago 6, Ill. (1942) Amalgamated Meat Cutters and Butcher Workmen of N. Amer., dir. of res. and educa., res., teach.; b. 1910; B.S., 1932, M.A., 1937, New York. Field 16. Pub. Labor unions in action (Harper, 1948); "Ideology and unions," A.E.R., Dec., 1943. Res. Human relations in union administration and collective bargaining; philosophy and ideas of American labor movement.
- BARBER, Clarence L.**, Central Staff, Room 2032, Dominion Bur. of Statis., Ottawa, Ont., Canada. (1943)
- BARKAS, Benjamin William**, 5907 Kemble Ave., Philadelphia 38, Pa. (1923) School Dist. of Philadelphia, Div. of School Ext., specialist in labor educa., dept. head, teach., res.; b. 1897; B.S., 1921, A.M., 1923, Ph.D., 1925, Cornell Univ. Fields 16, 4b, 2a. Doc. dis. Agrarian rationalism

of eighteenth century and French revolution (Abstracts of Cornell Univ., 1925). Pub. "Ways and means committee of Upholstery Weavers' Union," Amer. Federationist, Nov., 1927; "Adult education for social change," Proceed. of Swarthmore Seminar, 1935; Five experimental classes in training for production supervision (Pennsylvania State Col., Central Ext., 1943). Res. Content and method of workers' education; Pennsylvania labor history.

BARKER, Carl, Shell Oil Co., 50 W. 50th St., New York 20, N.Y. (1942) Shell Oil Co., asst. to pres., bus.; b. 1891; B.S., 1903, Alabama Poly. Inst. Fields 15, 14b, 8.

BARKIN, Solomon, Textile Workers Union of Amer., 15 Union Sq., New York, N.Y. (1945)

BARLOON, Marvin John, 10940 Euclid Ave., Cleveland 6, Ohio. (1946) Western Reserve Univ., prof., dept. head, res., teach.; b. 1906; B.S. in Com., 1931, Iowa; M.B.A., 1935, Harvard. Field 14a. Pub. "Steel: the great retreat," Aug., 1947, "Violence and collective bargaining," May, 1940, Harper's Mag.; "Unemployment trust fund," Harvard Bus. Rev., Spring, 1938. Res. Conservation of steel tonnage through use of low alloy, high strength steels, stainless steels, aluminum, and magnesium; economics of substitution in consuming industries. Dir. W.W. in Amer. (1947 sup.)

BARLOW, Barbara Lincoln (Mrs. Wallace D.), 6528 Ager Rd., Hyattsville, Md. (1947)

BARLOW, Wallace Dudley, 6528 Ager Rd., Hyattsville, Md. (1940) U. S. Bur. of Mines, mineral technologist, govt. serv.; b. 1909; B.S., 1930, M.S., 1936, Virginia Poly. Inst.; 1939-40, Harvard. Fields 15c, 12b, 10. Pub. "Soviet resources reconsidered," 1939; "Regional estimates of future mineral production," 1940; "Procurement and industrial mobilization plan for quarter-master corps," 1948. Res. Dispersal plan for mineral industry.

BARNARD, Chester Irving, 49 W. 49th St., New York 20, N.Y. (1934) Rockefeller Found., pres.; b. 1886; 1906-09, Harvard; LL.D., 1937, Newark, 1943, Brown, 1945, Bloomfield Col. and Sem., 1947, Princeton; D.Sc., 1936, Rutgers, 1947, Pennsylvania. Fields 1, 17, 3. Pub. Functions of executive (1938), Organization and management (1948) (Harvard Univ. Press). Dir. W.W. in Amer., Dir. of Schol.

BARNES, Horace Richards, 928 Virginia Ave., Lancaster, Pa. (1923) Franklin and Marshall Col., prof., dept. head, teach.; b. 1887; A.B., 1911, M.A., 1913, Pennsylvania; LL.D., 1928, Washington Col. Fields 8, 13b. Pub. Markets and prices (Edwards Bros., 1924 and rev.); Early history of tobacco (1941), Industries of Lancaster County prior to 800 (1944) (Lancaster Co. Hist. Soc.). Res. History of gas and electric industries in Lancaster County, Pa. Dir. Lead. in Educa., W.W. in East.

BARNES, Irston Roberts, 401 Ridge Rd., Hamlen 14, Conn. (1928) Civil Aeronautics Bd., adviser to Bd., govt. serv.; b. 1904; Ph.B., 1926, Ph.D., 1928, Yale. Fields 13ab, 12. Doc. dis. Public utility control in Massachusetts (Yale Univ. Press, 1930). Pub. Economics of public utility regulation (1942), Cases on public utility regulation (1938) (Crofts); "Federal courts and state regulation of utility rates," Yale Law Jour., Jan. 1934. Dir. W.W. in East.

BARNES, Leo, 801 West End Ave., New York 5, N.Y. (1944) Prentice-Hall, Inc., chief econ., dept. head; New School for Soc. Res., lecturer; es., edit., teach.; b. 1910; B.S.S., 1931, City of New York; A.M., 1933, Brown; 1934-36, Johns Hopkins; Ph.D., 1948, New School for Soc. Res. Fields 6, 12, 3. Doc. dis. An experiment that aided: an analysis of economic forecasting in American reconversion, 1945-46. Pub. Handbook or business forecasting (Prentice-Hall, 1948); "How sound were private postwar forecasts?" P.E., Apr., 1948; "How dangerous is the public left," Atlantic Monthly, Feb., 1946.

BARNES, (Mrs.) Lillian Price, The Kennedy Warren, Washington 8, D.C. (1940) U.S. Dept. of

Com., Nat. Income Div., Sec. of Nat. Accts., econ., govt. serv., res.; b. 1898; 1920-22, Delaware; summer, 1926, Virginia; A.B., 1938, George Washington; M.A., 1942, 1942-48, American. Fields 5, 9, 13b.

BARNET, Edward M., 98 Wilton Pkwy., Kenmore 17, N.Y. (1947)

***BARNETT, Harold Josef**, 390 Ellison St., Paterson, N.J. (1946) State Dept., Div. of German and Austrian Econ. Affairs, asst. chief, govt. serv.; b. 1917; B.S., 1939, Arkansas; M.S., 1940, California; M.A., 1948, Harvard. Fields 12b, 11ac, 7. Res. Adaptation of U. S. economy to innovation: atomic energy (doc. dis.).

BARNETT, Robert Arthur, 1240 Bishop Rd., Grosse Pointe 30, Mich. (1946)

BARONE, S. Vincent, 431 Brandywine St., S.E., Washington 20, D.C. (1946) Govt. serv., res., edit.; b. 1918; B.S.(S.S.), 1939, St. John's Univ.; M.A., 1941, New York. Fields 10, 7, 2.

BARR, Pelham, 501 Fifth Ave., New York 17, N.Y. (1942)

BARR, Robert J., Marquette Univ., Col. of Bus. Admin., Milwaukee 11, Wis. (1942) Marquette Univ. Dept. of Econ., head, prof. of econ., teach.; b. 1901; B.S., 1924, Chattanooga; M.S., 1925, Ph.D., 1935, Wisconsin. Fields 1a, 10, 12a. Pub. "South Africa's wartime price controls" (with M. Neilan), Aug. 7, 1943, "Postwar Palestine," Oct. 7, 1944, "Postwar trade prospects in Egypt, Iraq, Palestine," June 30, 1945, For. Com. Weekly, Dir. Lead. in Educa.

BARRETT, A. L., P.O. Box 4091, East Lake Sta., Birmingham 6, Ala. (1947) Howard Col., Birmingham, asst. prof., teach.; b. 1916; A.B., 1937, Georgia; 1941, Duke; M.A., 1947, Virginia. Fields 7, 6, 1a.

BARRETT, Joseph L., 344 E. 48th St., New York 17, N.Y. (1944)

BARRIGER, J. W., 608 S. Dearborn St., Chicago 5, Ill. (1948)

BARTLETT, C. A., Post Box 26, Zanzibar, Africa. (1933)

BARTLETT, Paul B., Bates Col., Lewiston, Me. (1947)

BARTLETT, Roland Willey, 315 Mumford Hall, Urbana, Ill. (1931) Univ. of Illinois, prof.; Bartlett Found., Inc., pres.; res., teach., bus.; b. 1900; B.S., 1922, M.S., 1924, Cornell Univ.; Ph.D., 1929, Pennsylvania State Col. Fields 12, 14, 11. Pub. Co-operation in marketing dairy products (Charles C. Thomas Pub. Co., Springfield, Ill., 1931); Price of milk (Interstate Printers and Publishers, Danville, Ill., 1941); Milk industry (Ronald Press, 1946). Res. Milk plant efficiency; pricing plans, St. Louis and Kansas City; consumption and demand, Chicago and St. Louis.

BARTON, Hubert C., 1530 Mt. Eagle Pl., Parkfairfax, Alexandria, Va. (1944)

BARTON, Sam Beal, Box 6015, T. C. Sta., Denton, Tex. (1947) North Texas State Teachers Col., prof. of econ., teach., res.; b. 1906; 1925-26, Wayland Col.; B.A., 1930, M.A., 1932, Ph.D., 1938, Texas. Fields 16, 2, 1. Doc. dis. Factors and forces in movement for abolition of child labor in U.S. Pub. Wage earners meet the depression (with R. A. Allen) (Univ. of Tex., Bul., Dec., 1935); "Those who go down to the docks" (with R. A. Allen), Sociology and Soc. Res., Nov.-Dec., 1934. Res. Employer's freedom of speech versus employee's freedom to organize.

BARUCH, B. M., 597 Madison Ave., New York, N.Y. (1913)

BASCH, Antonin, Int. Bank for Reconstruction and Development, 1818 H St., N.W., Washington 6, D.C. (1940)

BASKA, Louis Martin, St. Benedict's Col., Atchison, Kans. (1935) St. Benedict's Col., Dept. of Econ., head, teach.; b. 1888; 1908, St. Benedict's Col.; A.B., 1911, A.M., 1921, St. John's Univ., Collegeville, Minn.; summers, 1916, Wisconsin, 1917-18-19, Chicago, 1931, Harvard; 1929, 1930, 1931, 1936, Catholic Univ. of Amer. Fields 2a, 16, 17. Dir. Dir. of Schol., W.W. in Clergy, in Kansas, Amer. Catholic W.W.

BASS, Lawrence Wade, 60 E. 42nd St., New

- York 17, N.Y. (1930) U. S. Industrial Chemicals, Inc., vice-pres., bus.; b. 1898; Ph.B., 1919, Ph.D., 1922, Yale. Fields 14, 11, 3. Dir. W.W. in Amer.
- *BASSETT, Harry, 3102 Ave. R, Brooklyn 10, N.Y. (1948)
- **BASSIE, V. Lewis, 3908 S. Seventh St., Arlington, Va., (1946) U. S. Dept. of Com., asst. to secy., govt. serv.; b. 1907; Ph.B., 1931; 1931-35, Chicago. Fields 6, 5, 10. Pub. "No bust in 1947," Barron's, Apr.-May, 1947; "Consumers' expenditures in war and transition," Rev. of Econ. Statis., Aug., 1946; Export requirements for full employment (For. Econ. Admin., 1944). Res. Economic forecasting (doc. dis.).
- BASTER, Albert S. J., United Nations, Dept. of Econ. Affairs, Lake Success, N.Y. (1947) United Nations, econ.; b. 1904; Ph.D., 1935, London School of Econ. Fields 10, 1a, 4a. Pub. Advertising reconsidered (1936), Twilight of American capitalism (1936) (P. S. King, London); The little less (Methuen, London, 1947).
- BATCHELOR, Joseph Alexander, Indiana Univ., Dept. of Econ., Bloomington, Ind. (1932) Indiana Univ., asst. prof.; b. 1909; A.B., 1930, M.S., 1931, Indiana; Ph.D., 1942, Northwestern. Fields 2a, 14ab, lab. Doc. dis. An economic history of Indiana oolitic limestone industry (Indiana Univ. School of Bus. Studies, 1944). Dir. Dir. of Schol., W.W. in Com. and Ind.
- BATES, Bernice Albert, 10381 Somerset, Detroit 24, Mich. (1948)
- BATES, Emmert W., American Book Co., 88 Lexington Ave., New York 16, N.Y. (1946)
- BAUDE, Walter A., Univ. of Cincinnati, Col. of Bus. Admin., Cincinnati 21, Ohio. (1947) Univ. of Cincinnati, prof. of statis., teach., res.; b. 1896; Ch.E., 1918, B.S. in Com., 1926, Cincinnati. Fields 3ac, 6, 1a. Res. Method of determining secular trends of economic variables.
- BAUDER, Russell Stickney, Univ. of Missouri, 107 B. and P. A. Bldg., Columbia, Mo. (1947) Univ. of Missouri, dept. head, prof., teach.; b. 1902; B.S., 1924, Knox Col.; M.A., 1925, Ph.D., 1933, Wisconsin. Fields 16, 4a, 11a. Doc. dis. National collective bargaining in foundry industry. Pub. "National collective bargaining in foundry industry," Sept., 1934, "Probable incidence of social security taxes," Sept., 1936, A.E.R.; "Three interpretations of American trade union movement," Soc. Forces, Dec., 1943.
- BAUER, John, 280 Broadway, New York 7, N.Y. (1910) Amer. Pub. Util. Bur., dir.; b. 1881; B.A., 1904, LL.D., 1935, Doane Col.; B.A., 1906, Ph.D., 1908, Yale. Fields 13ab, 12, 4ab. Doc. dis. Economic and social conditions of Italians in U. S. Pub. Effective regulations of public utilities (1925), Public utility valuation for purposes of rate control (1934) (Macmillan); Electric power industry-development, organization and public policies (Harpers, 1939). Res. Public organization of electric power; transforming public utility regulation into an administrable system; survey of state laws relating to public ownership of public utilities. Dir. W.W. in Amer., Dir. of Schol., Int. W.W.
- BAUER, Joseph John, 3721 Suitland Rd., S.E., Washington 20, D.C. (1947) Southern Supply Co., owner, mgr., bus.; b. 1909; B.S., 1932, M.B.A., 1942, Ohio State. Fields 11b, 14a, 17d.
- *BAUER, Robert W., 2623 Haste St., Berkeley 4, Calif. (1947)
- BAUGH, Russell H., Oklahoma A. and M. Col., Dept. of Econ., Stillwater, Okla. (1932)
- BAUMANN, Robert G., 126 Crocus Ave., Floral Park, L.I., N.Y. (1948)
- BAUMERT, Watson A., 102 South Ave., Garden City, L.I., N.Y. (1927)
- BAVOLAK, Eva, Hamline Univ., St. Paul 4, Minn. (1947)
- BAYSINGER, Reaves H., Box 89, Dewitt, N.Y. (1933)
- BEACH, Earl Francis, 1020 Pine Ave., W. Montreal 2, Que., Canada. (1946) McGill Univ., Bronfman Prof. of Com., teach.; b. 1912; B.A. (Hons. Econ.), 1934, Queen's Univ., Kingston, Canada; A.M.; 1936, Ph.D., 1938, Harvard. Fields 3ab, 1ac. Doc. dis. Measurement of real capital. Pub. "A measure of physical capital," Rev. of Econ. Statis., Feb., 1938; "A measurement of productive capacity of wealth," Nov., 1941, "Triffin's classification of market positions," Feb., 1943, Canadian Jour. of Econ. and Polit. Sci. Res. Use of polynomials as cost curves; regressive supply curves.
- BEACH, W(alter) Edwards, 5719 Chevy Chase Pkwy., N.W., Washington 15, D.C. (1926) Commodity Exch. Auth., Trading and Reports Div., chief, govt. serv.; b. 1901; 1919-20, State Col. of Washington; A.B., 1922, Stanford; A.M., 1926, Ph.D., 1929, Harvard. Fields 12, 8b, 7. Dir. Dir. of Schol.
- BEADLES, Nicholas Aston, Box 5081, Asheville, N.C. (1946) Univ. of Colorado, instr.; b. 1918; B.A., 1940, North Carolina; M.A., 1947, Colorado. Fields 16, 1a, 4a. Res. Swedish economy.
- BEADLES, William T., Illinois Wesleyan Univ., Bloomington, Ill. (1931) Illinois Wesleyan Univ., prof.; Great States Life Ins. Co., secy.; dept. head; b. 1902; A.B. 1923, Illinois Wesleyan; M.A., 1924, Illinois; 1941-42, Pennsylvania. Fields 8c, 16, 17d. Pub. "C.L.U., signs of the times," Nat. Messenger, Jan., 1948. Dir. Dir. of Schol., W. W. in Amer. Educa., in Chicago and Illinois.
- ††BEAL, Thomas Andrew, 944 Military Dr., Salt Lake City 5, Utah. (1909)
- *BEALE, John William, 151 Amity St., Brooklyn 2, N.Y. (1946) Bowring & Co., asst. export mgr., bus.; b. 1921; 1939-43, City of New York; B.A., 1944, St. Lawrence Univ.; 1947-48, New York. Fields 10, 11ab, 13b.
- BEAN, Louis H., 3714 N. Randolph St., Arlington, Va. (1947)
- BEAN, Marcus Hardy, 678 Shadowlawn Dr., Westfield, N.J. (1947) Rutgers Univ., Dept. of Acctg., chmn., teach., res.; b. 1901; A.B., 1925, Brigham Young Univ.; M.S., 1928, Columbia. Fields 11c, 7, 1a.
- BEARNSON, Julius Benedict, Univ. of Utah, Salt Lake City 1, Utah. (1939) Univ. of Utah, prof., teach.; b. 1887; B.S., 1914, Utah State Agric. Col.; A.M., 1917, Stanford; 1925-26, Chicago; Ph.D., 1948, Virginia. Fields 16, 2a, 17b. Doc. dis. Private and public relief in Utah. Pub. "University of Utah alumni survey," Utah Alumnus, Apr., 1937, to May, 1939; What every worker in Utah should know about Wagner law and Utah Labor Relations Act (Sugar House Press, Salt Lake City, 1937); "Captains of industry—J. Ogden Armour," M. I. A. Manual, 1928. Res. History of organized labor in Utah. Dir. W.W. in West.
- BEATTIE, John Robert, Bank of Canada, Ottawa, Ont., Canada. (1946)
- BEATTY, Sister M. Alexine, Regis Col., Weston 93, Mass. (1947) Regis Col., dept. head, asst. prof., teach.; b. 1902; B.A., 1939, Boston Col.; M.A., 1941, Catholic Univ. of Amer. Fields 1ab, 7, 2a. Res. Bank failures in District of Columbia in twentieth century (doc. dis.).
- BEATTY, Willard C., 42 Yale Ave., Gaspee Plateau, Providence 5, R.I. (1923)
- *BECK, Morris, 306 Third Ave., New York 10, N.Y. (1947) Columbia Univ., student; Brooklyn Col., instr.; b. 1922; B.A., 1942, Pennsylvania State Col.; M.A., 1947, 1947-48, Columbia. Fields 9, 1, 16. Pub. "Philadelphia income tax," Bul. of Nat. Tax. Asso., Dec., 1947; "Capital replacement, depreciation, and taxes," Taxes—The Tax Mag., July, 1948. Res. Impact of urban decentralization on municipal finance (doc. dis.); British taxation of corporate profits; incidence of corporation income tax in steel industry.
- BECKER, Arthur Peter, Ohio State Univ., Dept. of Econ., Columbus 10, Ohio. (1944) Ohio State Univ., asst. prof. of econ., teach., res.; b. 1918; 1935-37, Wisconsin State Teachers Col.; B.A., 1939, M.A., 1940, Ph.D., 1943, Wisconsin. Fields 1a, 8, 13a. Doc. dis. Theory of perfect regulation and public utility valuation. Pub. "Fixed dividends on all public utility stock," Jour. of Land and Pub. Util. Econ., 1945; "Some philosophical aspects of economics," Phil. of Sci., 1948.
- BECKER, Joseph T. Maria, Georgetown Univ.,

- Washington 7, D.C. (1946) Columbia Univ., student; b. 1908; M.A., 1934, L.S.T., 1940. St. Louis; 1942-48, Columbia. Fields 17b, 9, 5.
- BECKER, Nathan Maurice**, 25 Wilson Dr., New Rochelle, N.Y. (1936) British American and Eastern Co., export mgr.; Col. of City of New York, lecturer; bus., teach.; b. 1914; A.B., 1935, A.M., 1936, Ph.D., 1938, Cincinnati; summer, 1937, Michigan. Fields 10, 1ab, 6. Doc. dis. Problem of monetary reform in China. Pub. Towards world prosperity (co-author) (Harpers, 1947); "Possible effects of boycott of Japanese goods," Amerasia, Dec., 1937; "Anti-Japanese boycott in U.S.," Far Eastern Survey, Mar. 1, 1939.
- BECKER, Walter George**, St. Ambrose Col., Davenport, Iowa. (1948) St. Ambrose Col., asst. prof. of com., teach.; b. 1911; 1929-31, 1935-36, Northwestern; A.B., 1941, A.M., 1943, Loyola Univ., Chicago; summer, 1947, 1948, Iowa. Fields 8ab, 7, 6.
- BECKERLE, Val J.**, St. Louis Univ., School of Com. and Fin., 3674 Lindell Blvd., St. Louis 8, Mo. (1946) St. Louis Univ., instr., teach.; b. 1918; B.S.C., 1939, M.S.C., 1947, St. Louis. Fields 11, 5, 14.
- BECKETT, Grace**, Univ. of Illinois, 323 David Kinley Hall, Urbana, Ill. (1936) Univ. of Illinois, asst. prof., teach.; b. 1912; A.B., 1934, A.M., 1935, Oberlin; Ph.D., 1939, Ohio State. Fields 10, 1b, 7. Doc. dis. Reciprocal trade agreements program (Columbia Univ. Press, 1941). Pub. "Problem of reclassification in reciprocal trade agreements," J.F.E., Apr., 1940; "Effect of reciprocal trade agreements upon foreign trade of U.S.," Q.J.E., Nov., 1940; "Bases for foreign trade policy," Opinion and Comment (Univ. of Ill.), Feb., 1946. Res. Foreign trade of Latin America. Dir. W.W. in Amer. Educa.
- BECKHART, Benjamin Haggott**, Columbia Univ., 510 School of Bus., New York 27, N.Y. (1922) Columbia Univ., prof. of bank.; Chase Nat. Bank, dir. of res.; teach., res.; b. 1897; A.B., 1919, Princeton; M.A., 1920, Ph.D., 1925, Columbia. Fields 7, 6, 10. Doc. dis. Discount policy of Federal Reserve System (Holt, 1924). Pub. Banking system of Canada (Holt, 1929); New York money market (with others) (Columbia Univ. Press, 1931); "Bretton Woods proposal for International Monetary Fund," Polit. Sci. Quar., Dec., 1944. Res. Central banking, bank credit, and interest rates. Dir. W.W. in Amer.
- BECKMAN, Theodore N.**, Ohio State Univ., Col. of Com. and Jour., Columbus, Ohio. (1921)
- BECKNER, Earl Rucker**, OMGUS, Manpower Div., APO 742, c/o Postmaster, New York, N.Y. (1924) OMG for Germany (U.S.), Wages, Labor Standards and Housing Br., chief, govt. serv.; b. 1895; A.B., 1923, Butler; A.M., 1924, Ph.D., 1927, Chicago. Fields 16, 10, 17d. Doc. dis. History of labor legislation in Illinois (Univ. of Chicago Press, 1929).
- BEECROFT, Eric Armour**, Box 6776, Fort Davis Sta., Washington 20, D.C. (1943) Int. Bank for Reconstruction and Development, Loan Dept., loan officer; b. 1903; B.A., 1925, M.A., 1926, Toronto; 1926-27, Brookings; Ph.D., 1934, Yale. Fields 10, 9, 8. Pub. "India's military problem," Jour. of Politics, Aug., 1940; "Toward a national policy for migration" (with S. Janow), Soc. Forces, May, 1938.
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- BEGDES, Kutsi**, Kozluca Han Kat 3, Galata, Istanbul, Turkey (1948)
- BEGLEY, John Patrick**, Creighton Univ., Omaha 2, Neb. (1946) Creighton Univ., prof. of acctg., teach.; b. 1894; B.S.C., 1926, M.A., 1928, Creighton; summers, 1929-31, Chicago; Ph.D., 1933, Iowa. Fields 11c, 8b, 13ab. Doc. dis. Bank deposit insurance in Nebraska. Pub. Manual for all county officers (State of Nebraska, 1937); "A criticism of C.P.A. examinations," Acctg. Forum, May, 1947. Dir. Int. W.W.
- BEHLING, Burton Neubert**, 4447 Davenport St., N.W., Washington 16, D.C. (1934) Fed. Power Com., special asst., govt. serv., res., edit.; b. 1906; B.A., 1928, Lawrence Col.; M.A., 1929, Ph.D., 1931, Illinois. Fields 13ab, 12b, 14c. Doc. dis. Competition and monopoly in public utility industries (Univ. of Illinois Press, 1938). Pub. Public aids to domestic transportation (U.S. Govt. H. Doc. 159, 1944); Report on natural gas investigation (U.S. Govt., 1948).
- BEHLOW, Robert R.**, 341 Ninth Ave., New York 1, N.Y. (1942) U.S. Dept. of Labor, Bur. of Labor Statis., reg. dir., govt. serv.; b. 1906; A.B., 1929, Southern California; 1942-48, Columbia; 1944, American. Fields 16, 13b, 8b.
- BEHRENDT, Richard Fritz Walter**, 69 Hamilton St., Hamilton, N.Y. (1942) Colgate Univ., prof. of int. affairs, Area Studies, dept. head, teach., res.; b. 1908; 1926-27, Handels-Hochschule of Nuremberg; Dipl. Oec. Pub., 1929, Univ. of Cologne; Dr.Rer.Pol., 1931, Univ. of Basle; 1931-32, Ibero-American Inst., Berlin; 1933-34, Univ. of Berne. Fields 10, 2b, 15d. Doc. dis. Die Schweiz und der Imperialismus: Der hochkapitalistische Kleinstaat im Zeitalter des politischen und ökonomischen Nationalismus (Rascher & Co., Zurich, 1932). Pub. Economic nationalism in Latin America (Univ. of New Mexico Press, 1941); Inter-American economic relations: problems and prospects (Com. on Int. Econ. Policy and Carnegie Endow. for Int. Peace, 1948); Modern Latin America in social science literature (Univ. of New Mexico Press, 1948). Res. Immigration and colonization in Latin America; recent economic and social reform policies in Guatemala; current economic problems and trends in Central America. Dir. Lead. in Educa.
- BEIMEL, Eugene**, 393 Central Park W., New York 25, N.Y. (1946) R. H. Macy and Co., Inc., jr. exec., bus.; b. 1922; B.S. in S.S., 1942, City of New York; M.B.A., 1947, Wharton, Pennsylvania; 1947, New York. Fields 11, 3ac, 14c.
- BEISEL, Albert Raymond, Jr.**, 11 Arden Rd., Newtonville, Mass. (1944)
- BEKKER, Konrad**, 1323 New Hampshire Ave., N.W., Washington 6, D.C. (1939) Dept. of State, govt. serv., res.; b. 1911; Dr. jur., 1935, Ph.D., 1936, Univ. of Basle; 1938-39, Brookings. Fields 1a, 15d, 5. Doc. dis. Marx' Philosophische Entwicklung (Oprecht, Zurich, 1940).
- BELCHER, Algernon**, 1416 Kearny St., N.E., Washington 17, D.C. (1948)
- BELCHER, David William**, 4129 Drew Ave. S., Minneapolis 10, Minn. (1947) Univ. of Minnesota, instr., teach., res.; b. 1916; B.B.A., 1939, M.A., 1948, Minnesota. Fields 16, 14a, 3. Pub. Procedures in wage surveys (Univ. of Minnesota, Ind. Rela. Center, 1948).
- BELCHER, Donald Ray**, Amer. Tel. and Tel. Co., 195 Broadway, New York 7, N.Y. (1921) Amer. Tel. and Tel. Co., treas., bus., govt. serv.; b. 1887; A.B., 1909, LL.D., 1944, Kalamazoo; A.M., 1915, Columbia. Fields 13c, 8b, 11a. Dir. W. W. in Amer.
- BELFER, Nathan**, Brooklyn Col., Dept. of Econ., Brooklyn 10, N.Y. (1947) Brooklyn Col., asst. prof., teach., res.; b. 1920; B.S., 1941, M.A., 1942, Ph.D., 1946, Harvard. Fields 16, 6, 1ab. Doc. dis. Technical change and technological unemployment. Pub. "Unionism and marginal productivity theory" (in book) (Macmillan); "Unionism and real labor income," Southern Econ. Jour., Jan., 1948. Res. Financial aspects of trade unions.
- BELL, Albert L.**, Franklin and Marshall Col., Lancaster, Pa. (1942) Franklin and Marshall Col., asst. prof., teach.; b. 1914; B.S.C., 1935, Franklin and Marshall; 1936, Harvard; M.A., 1940, Pennsylvania State Col.; 1945-48, Pennsylvania. Fields 1, 8, 10. Dir. Lead. in Educa.
- BELL, David Elliott**, 3700 Massachusetts Ave., Apt. 422, Washington 16, D.C. (1941)
- BELL, Gordon Douglas**, 1950 W. 17th Ave., Vancouver, B.C., Canada. (1946)
- BELL, Harry Price**, 48 College St., Hanover, N.H. (1945) Dartmouth Col., asst. prof., teach., res.; b. 1907; A.B., 1928, North Carolina; M.A., 1930, Columbia; Ph.D., 1940, Brown. Fields 16, 6, 1a. Doc. dis. Collective bargaining practice and

principles as developed by government labor boards. Pub. "Picketing: its use and abuse" (with H. Feldman), *Annals of Amer. Acad. of Polit. and Soc. Sci.*, Nov., 1946. Res. General aspects of picketing. Dir. W. W. in New England. (BELL, James Christy, Brookville, L.I., N.Y. (1922))

BELL, James Washington, 1745 Chicago Ave., Evanston, Ill. (1916) Northwestern Univ., dept. head, prof.; Amer. Econ. Asso., secy-treas. and edit. of Proceedings; Nat. Bank of Com., Citizens Nat. Bank, Chicago, dir.; teach., res., edit., bus.; b. 1890; B.A., 1912, M.A., 1913, Colorado; Ph.D., 1918, Harvard. Fields 7, 6, 9. Doc. dis. Taxation of railroads in New England (Harvard, 1918). Pub. Guide to study of money and banking (Chicago, 3rd ed., 1935); "Recent changes in character of bank liabilities and problem of bank reserves," A.E.R., Mar. sup., 1932; "Domestic and international monetary policies," A.E.R., May, 1946. Res. Monetary and fiscal policies; commercial bank practice and policies; comparative banking systems and money markets; money, credit, and prices. Dir. W.W. in Amer., in Illinois, in Chicago, Dir. of Schol., Lead. in Educa., Who Knows—and What.

BELL, John Fred, Univ. of Illinois, 318 David Kinley Hall, Urbana, Ill. (1927) Univ. of Illinois, prof. of econ., teach., res.; b. 1898; A.B., 1923, Muskingum Col.; A.M., 1924, P.D., 1928, Illinois. Fields lab, 2, 7. Doc. dis. Development of banking activities of trust companies. Pub. "Frederich List, champion of industrial democracy," Pa. Mag. of Hist. and Biog., Jan., 1942; "Problems of economic reconstruction in France," Econ. Geog., Jan., 1946; "World's silver legacy," Bankers Mag., Apr., 1931. Res. A history of economic thought. Dir. W. W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.

BELL, Lawrence James, 6117 Columbia Ave., Philadelphia 31, Pa. (1947) St. Joseph's Col., Dept. of Bus. Admin., chmn., asst. prof., teach.; b. 1919; B.S., 1940, St. Joseph's Col.; A.M., 1943, Wharton, Pennsylvania; A.M., 1947, Harvard. Fields 16, 1, 3.

*BELL, Philip W., 1016 F Coolidge St., Albany 6, Calif. (1947)

BELL, Spurgeon, 532 20th St., N.W., Washington, D.C. (1925)

BELL, William J., Fairmont State Col., Dept. of Econ., Fairmont, W.Va. (1943)

BELLA, Salvatore Joseph, Alfred Univ., Dept. of Bus., Alfred, N.Y. (1948) Alfred Univ., asst. prof., teach., res.; b. 1919; B.S. in B.A., 1947, A.M., 1948, Boston Univ. Fields 1, 11, 16. Res. Alfred University Area Studies.

BELLEMORE, Douglas Hamilton, Boston Univ., 685 Commonwealth Ave., Boston, Mass. (1947) Boston Univ., Col. of Bus. Admin., Econ. Dept., chmn., teach.; b. 1909; B.S. in B.A., 1932, M.B.A. 1933, Boston Univ.; Ph.D., 1937, New York. Fields 8ab, 7, 9. Doc. dis. Public utility holding company. Pub. "Presto! the budget is balanced," Banking, Mar., 1939; "Need for sound credit policies," Credit and Fin. Mgt., Dec., 1947; "Can the Federal Reserve serve two masters?" Com. and Fin. Chron., Jan. 8, 1948. Res. Investment principles and investment analysis.

BELLER, William Charles, 18 W. 85th St., New York 24, N.Y. (1937)

BELMAN, (Mrs.) Clare Distel, 1620 B St., N.E., No. 4, Washington 2, D.C. (1944)

BELMORE, Carl Warren, 24 Elm St., Wakefield, Mass. (1936) Beverly High School, Soc. Studies Dept., head, teach.; b. 1899; A.B., 1921, Bates Col. Fields 2a, 17a.

BELTRAN, Pedro G., Apartado 485, Lima, Peru, S. Amer. (1938)

BELZAK, Charles Thomas, 2227 N. Park Ave., Philadelphia 32, Pa. (1946) Great A & P Tea Co., personnel mgr., bus.; b. 1916; Certif. of Profic., 1940, Wharton, Pennsylvania. Field 11a.

BENDER, Wesley Charles, Univ. of Notre Dame, Notre Dame, Ind. (1937)

BENEDICT, Murray Reed, Giannini Found., Univ. of California, Berkeley 4, Calif. (1928)

Univ. of California, Giannini Found. and Exp. Sta., prof., agric. econ., teach., res.; b. 1892; B.S., 1916, Wisconsin; Ph.D., 1931, Harvard. Fields 15b, 10, 4a. Doc. dis. Incidence of transportation charges on agricultural products—an analysis of economic relationships involved when rates are changed. Pub. "An appraisal of wool marketing work of Federal Farm Board and National Wool Marketing Corporation," Proceed., Amer. Inst. of Co-op., 1931; "Opportunity cost basis of substitution method in farm management," Jour. of Farm Econ., July, Oct., 1932; "Influence of changes in agricultural production and marketing upon farm labor in U.S.," Int. Rev. of Agric. (Int. Inst. of Agric., Rome) Oct., 1941. Res. Evolution of American agricultural policy. Dir. Dir. of Schol., W.W. in California.

BENGSTON, Karl Josef, 3 Paseo Hermoso, Salinas, Calif. (1938) Hartnell Col., comptroller, registrar, dept. head, teach.; b. 1911; B.A., 1932, Gustavus Adolphus Col.; M.A., 1936, Iowa. Fields 16, 4.

BENJAMIN, Harold, 35-50 78th St., Jackson Heights, N.Y. (1945) O. L. Walter & Co., partner; New School for Soc. Res., lecturer; bus., teach.; b. 1911; M.B.A., 1933, Ph.D. (Econ) 1934, Cologne Univ. Fields 11c, 9, 8b. Doc. dis. Reorganization of German banking system after crisis of 1931. Pub. "Current ratio or net working capital?" Jour. of Accountancy, June, 1939; "Reasons for taxing savings—a reply to Professor Irving Fisher," Taxes, May, 1941; "Dow theory of stock prices," Soc. Res., May, 1942.

BENNER, Claude Leon, Continental Amer. Bldg., Wilmington 99, Del. (1922) Continental Amer. Life Ins. Co., vice-pres., bus.; b. 1892; A.B., 1920, A.M., 1921, Michigan; Ph.D., 1925, Brookings. Fields 8b, 7, 6. Doc. dis. Federal intermediate credit system (Macmillan, 1925). Pub. Ten years of intermediate credits (with F. Baird) (Brookings, 1932).

BENNETT, Alden Stanley, 90 Broad St., Room 1519, New York 4, N.Y. (1946)

BENNETT, Howard Franklin, Northwestern Univ., 307 Commerce Bldg., Evanston, Ill. (1947) Northwestern Univ., School of Com., teach.; b. 1911; A.B., 1933, Amherst; A.M. in Tchg., 1938, A.M., 1939, 1939-41, Harvard. Field 2a. Res. Land and colonization policy of Hannibal and St. Joseph Railroad.

BENNETT, Merrill Kelley, Food Res. Inst., Stanford University, Calif. (1945) Food Res. Inst., exec. dir., res., teach., edit.; b. 1897; Ph.B., 1920, A.M., 1921, Brown; A.M., 1926, Harvard; Ph.D., 1927, Stanford. Fields 15abd, 10, 6. Doc. dis. Farm cost studies in U.S. (Food Res. Inst., 1928). Pub. Wheat in national diets (Wheat Studies, 1941), Rice economy of monsoon Asia (with V. D. Wickizer) (1941), Food for postwar Europe: how much and what? (1944) (Food Res. Inst.). Res. International commodity stockpiling as contracyclical device. Dir. W.W. in Amer.

BENNETT, Philip A., 150 N. Day St., Orange, N.J. (1936)

BENNETT, Virgil Eudell, 200 Beaver St., Beaver, Pa. (1936) Bennett & Co., owner, bus. res., govt. serv.; M.A., 1939, Pittsburgh. Fields 11, 8, 13. Dir. W.W. in Amer.

BENNETT, William Batchelder, 4111 Third Rd. N., Arlington, Va. (1947) Munitions Bd., Office of Secy. of Defense, Nat. Mil. Estab., Int. Aid Br., Requirements Div., chief, govt. serv., res., edit.; b. 1914; B.S., 1935, New Hampshire; M.A., 1936, Ph.D., 1941, Louisiana State; summer, 1939, Harvard. Fields 11a, 8, 12. Doc. dis. Economics of American patent system. Pub. American patent system: an economic interpretation (Louisiana State Univ. Press, 1943).

BENNETT, William Whipple, Union Col., Schenectady 8, N.Y. (1921) Union Col., dept. head, teach.; b. 1897; A.B., 1919, Doane Col.; M.A., 1921, Ph.D., 1932, Princeton. Fields 16, 7, 1a. Doc. dis. Railroad enginemen brotherhoods and collective bargaining.

BENNION, Edward Graham, Standard Oil Co., (N.J.), 30 Rockefeller Plaza, New York 20, N.Y.

(1941) Standard Oil Co. (N.J.), Gen. Econ. Div., head, res.; b. 1908; A.B., 1930, M.A., 1934, California at Los Angeles; Ph.D., 1942, Harvard. Fields 7, 6, 10. Doc. dis. Changing member-bank reserve requirements. Pub. "Unemployment in theories of Schumpeter and Keynes," A.E.R., June, 1943; "Venezuela," in Economic problems of Latin America (edit. by S. E. Harris) (McGraw-Hill, 1944); "Consumption function: cyclically variable?" Rev. of Econ. Statis., Nov., 1946. Res. Statistical indicator and economic-model approaches to business cycle diagnosis and prognosis; demand curve derivation; foreign country economic studies.

BENO, Jan, Int. Monetary Fund, Washington 6, D.C. (1948)

BENOIT-SMULLYAN, Emile, Associated Colleges of Upper New York, Plattsburg, N.Y. (1942) Asso. Col. of Upper N.Y., Depts. of Econ. and Soc., head, prof. of econ. teach., res.; b. 1909; B.A., 1932, M.A., 1933, Ph.D., 1938, Harvard. Fields 6, 5, 16. Pub. "Public works in depression," Mar., 1948, "Net investment, consumption, and full employment," Dec., 1944, A.E.R.; "On the meaning of full employment," Rev. of Econ. Statis., May, 1948. Res. Full employment and inflation.

BENSON, Charles Scott, 36 Geneva Walk, Long Beach 3, Calif. (1947) Columbia Univ., grad. student; b. 1922; A.B., 1943, Princeton; A.M., 1948, Columbia. Fields 10, 7, 6.

BENSON, George Charles Sumner, Claremont Men's Col., 100 Harper Hall, Claremont, Calif. (1946) Claremont Men's Col., pres., teach., govt. serv., res.; b. 1908; A.B., 1928, Pomona; A.M., 1929, Illinois; Ph.D., 1931, Harvard. Fields 12b, 9, 11a. Doc. dis. Financial control and integration (Harpers, 1933). Pub. New centralization (Rinehart, 1940); Civil service in Massachusetts (Harvard Univ. Press, 1934). Res. Administrative organization in business and government. Dir. W.W. in Amer., Dir. of Schol.

BERETVAS, Andor, 6830 Paxton Ave., Chicago 49, Ill. (1947) General Finance Corp., internal auditor, bus.; b. 1900; Dipl. Bus. Admin., 1936, Univ. of World Econ., Vienna; 1940-41, Southern California. Fields 11c, 15d, 10. Pub. "Present-day view of a national debt," Savings Bank Jour., Sept., 1942; several publications in Hungarian trade magazines covering railroad and truck competition, 1936-38.

BERG, James Laurence, 1775 Broadway, New York 19, N.Y. (1947) Business, res.; b. 1922; B.S., 1944, New York. Fields 8ab, 7, 3a.

BERGER, Adolph Oscar, 528 Sheridan Rd., Evanston, Ill. (1934) U. S. Dept. of Labor, Bur. of Labor Statis., reg. dir., govt. serv., res.; b. 1907; A.B., 1929, Dartmouth; M.A., 1936, Chicago; 1929-30, Harvard. Fields 16, 6, 1.

BERGSON, Abram, 35 Claremont Ave., New York 27, N.Y. (1937) Columbia Univ., asso. prof., teach., res.; b. 1914; A.B., 1933, Johns Hopkins; M.A., 1935, Ph.D., 1940, Harvard. Fields 4ab, 1ac. Doc. dis. Structure of Soviet wages (Harvard Univ. Press, 1944). Pub. "Reformulation of welfare economics," Q.J.E., Feb., 1938; "Frisch's new methods," Rev. of Econ. Studies, Oct., 1936; "Socialist economics," in Survey of contemporary economics (1948). Res. National income of U.S.S.R. Dir. W.W. in East.

BERKOWITZ, Leonard M., 4318 22nd St., N.E., Washington 18, D.C. (1942) B. 1917; A.B., 1940, Brooklyn Col.; M.A., 1948, George Washington. Fields 14ab, 12, 10.

BERKOWITZ, Monroe, 24 Day St., Apt. W-21, Clifton, N.J. (1945) Rutgers Univ., instr., teach., res., govt. serv.; b. 1919; A.B., 1942, Ohio Univ.; A.M., 1946, 1946-48, Columbia. Fields 16, 6, 5. Res. Collective bargaining on local level.

BERMUDEZ, Jorge, 4 Conado St., Santurce 33, P.R. (1932) Crédito y Ahorro Ponceno, San Juan Br., mgr., bus.; b. 1911; B.B.A., 1932, Puerto Rico; M.B.A., 1933, Northwestern. Fields 7, 8a, 11c.

BERNFELD, Frederick Milton, Yale and Towne Mfg. Co., Stamford, Conn. (1937) Yale

and Towne Mfg. Co., econ., bus.; b. 1906; B.A., 1928, Pennsylvania; M.A., 1931, California; 1928-29, 1938-39, Yale. Fields 11ab, 6, 8b. Pub. Direct selling by Golden State Dairy (Univ. of California Lib., 1941); "Control of stock exchanges," Bul. of The Citadel, 1937; "Keystone of profits is pricing," Domestic Com. (U.S. Dept. of Com.), May, 1947. Res. Channels of distribution for builders' hardware; selling unrelated lines by middlemen.

BERNHARD, (Mrs.) Carolyn Gonyo, Casa Latino Americana, Apt. 506, Paseo de la Reforma 77, Mexico City, D.F. (1941)

BERNHARDT, Douglas Alden, Box 74, Brighton, Mich. (1947)

BERNHARDT, Joshua, 6800 Brookville Rd., Chery Chase 15, Md. (1920)

BERNHEIM, George B., 300 Observer Highway, Hoboken, N.J. (1916)

BERNSTEIN, Edward Morris, 400 Elm St., Chevy Chase, Md. (1935) Int. Monetary Fund, dir. of res., res.; b. 1904; Ph.B., 1927, Chicago; A.M., 1928, Ph.D., 1930, Harvard. Fields 7, 10, 6. Doc. dis. Effect of wartime prices and interest rates on utility ratemaking. Pub. Money and the economic system (Univ. of North Carolina Press, 1935); "Wage rates, investment and employment," J.P.E., Apr., 1939; "A practical international monetary policy," A.E.R., Dec., 1944.

*BERNSTEIN, Joel, 5635 University Ave., Chicago 37, Ill. (1946)

*BERNSTEIN, Martin, 288 E. 168th St., New York, N.Y. (1947)

BERNSTEIN, (Mrs.) Sylvia Pollack, 950 25th St., N.W., Washington 7, D.C. (1944) Int. Monetary Fund, econ., res.; b. 1919; A.B., 1939, Hunter Col.; 1940-41, 1943-45, George Washington; 1946, American. Fields 10, 7, 1b. Pub. Bibliography on labor and social welfare in Latin America (Pan American Union, 1944); "Latin American price trends," For. Com. Weekly (U.S. Dept. of Com.), July 27, 1946.

BERNT, Hans Heinrich, College Apts., Elmira, N.Y. (1943) Elmira Col., dept. head, asso. prof., teach., res.; b. 1898; J.U.D., 1924, Munich and Erlangen; B.S., 1940, M.A., 1943, Columbia. Fields 7, 10. Doc. dis. Taxation of foreign currency in Germany and Austria. Pub. Law of revaluation (R. Pflaum, 1925).

BERRETTONI, Julia Narciso, 632 Erie St., S.E., Minneapolis 14, Minn. (1946) Consultant in econ. and statis.; Univ. of Minnesota, Ext. Div., asst. prof.; bus., res., teach.; b. 1914; B. Com., 1937, British Columbia; M.S., 1938, Iowa State Col.; Ph.D., 1943, Minnesota. Fields 3ac, 1ac, 11b. Doc. dis. Theoretical and statistical cost curves.

BERRIDGE, William Arthur, Metropolitan Life Ins. Co., 1 Madison Ave., New York 10, N.Y. (1921) Metropolitan Life Ins. Co., econ., dept. head, res., teach.; b. 1893; A.B., 1914, A.M., 1919, Ph.D., 1922, Harvard. Fields 6, 8c, 3c. Doc. dis. Employment and business cycle (summary of one part published by Houghton Mifflin, under title, "Cycles of Unemployment in the U.S., 1903-22," 1923). Pub. Purchasing power of consumer (with E. A. Winslow and R. A. Flinn) (A. W. Shaw Co., 1925); "World's gold supply again considered," Rev. of Econ. Statis., July, 1934; "Observations on Beveridge's full employment in a free society and some related matters," Polit. Sci. Quar., June, 1945. Dir. W.W. in Amer.

*BERRY, Robert Erwin, 2052 Third Ave., East Moline, Ill. (1948) Univ. of Wisconsin, teach. asst.; b. 1923; B.S. in P.A., 1947, Illinois; 1943-44, Carleton Col.; A.M., 1948, Indiana; 1948, Wisconsin. Fields 16, 9, 1a. Res. State experience with anti-closed and anti-union shop laws; standards for wage stabilization and relative wage adjustments.

BERRY, Thomas Senior, Millsaps Col., Jackson, Miss. (1933) Millsaps Col., prof., teach., res.; b. 1906; S.B., 1927, A.M., 1932, Ph.D., 1938, Harvard. Fields 2a, 15c, 3b. Doc. dis. Western prices before 1861 (Harvard Univ. Press, 1943). Pub. Economic literature of Latin America (co-editor) (Harvard Univ. Press, 1935-36); "On measuring

- cost of life insurance," Jour. of Amer. Statis. Asso., Dec., 1940. Res. Early salt monopolies; San Francisco prices, 1848-82.
- BERTRAM**, Rudolf Friedrich, TVA, Pers. Div., Knoxville, Tenn. (1937) *OMGUS*, Manpower Div., Berlin, labor econ., govt. serv.; b. 1904; B.A., 1935, M.A., 1936, Chicago. Fields 16, 9, 17b. Pub. "Work relief in Great Britain and Germany," Soc. Serv. Rev., Sept., 1937; "Unemployment insurance and work relief," Southern Econ. Jour., Oct., 1938; "Local budget control by state tax commissions," Tax Mag., Aug., 1937. Res. Labor relations in TVA.
- BERTRAND**, Raymond, 714 14th St., New Alexandria, Va. (1948)
- BEST**, Harry, Univ. of Kentucky, Lexington, Ky. (1936) Univ. of Kentucky, prof., res., teach.; b. 1880; A.B., 1901, LL.B., 1938, Centre Col.; M.A., 1902, LL.D., 1944, Gallaudet Col.; M.A., 1902, George Washington; M.A., 1908, Ph.D., 1914, Columbia; LL.B., 1912, New York Law School. Fields 17ab, 16, 1a. Doc. dis. The deaf: their position in society and provision for their education in U.S. (Crowell, 1914). Pub. Blindness and blind in U.S. (1934), Crime and criminal law in U.S. (1930) (Macmillan); Soviet experiment (Richard R. Smith, 1941). Dir. W.W. in Amer.
- BETHKE**, Robert Harder, 58 Pine St., New York 5, N.Y. (1947) Discount Corp. of N.Y., asst. vice-pres., bus., res.; b. 1916; B.A., 1937, Chicago. Fields 8, 7, 6.
- BETHKE**, William, La Salle Ext. Univ., 417 S. Dearborn St., Chicago 5, Ill. (1919) La Salle Ext. Univ., vice-pres., gen. educa. dir., edit., res., bus.; b. 1885; B.A., 1910, M.A., 1911, Minnesota. Fields 11ab, 8ab, 6. Pub. Business management (edit-in-chief) (49 vols., La Salle Ext. Univ., 1926); Salesmanship (edit.) (9 vols., La Salle Ext. Univ., 1947); Private school in modern education (Nat. Home Study Coun., 1946). Res. Television programs. Dir. W.W. in Amer., Lead. in Educa., Int. W. W.
- BETTY**, Sam M., R. 5, Box 324-A, Spring Hill, Mobile Co., Ala. (1947)
- BEVERIDGE**, Oscar Maltman, 8751 S. Harper Ave., Chicago 19, Ill. (1948) Booz, Allen & Hamilton, pub. rela. dir., edit., res.; b. 1913; B.A., 1934, Amherst; M.B.A., 1940, New York. Fields 11ab, 6, 14.
- BEVERIDGE**, Sir William Henry, Tuggall Hall, Chathill, Northumberland, England. (1945)
- BEYER**, Glenn H., 221 Bryant Ave., Ithaca, N.Y. (1945) Cornell Univ., prof. of housing res., res., teach.; b. 1913; A.B., 1935, Augustana Col. (S.Dak.); A.M., 1939, George Washington. Fields 15abde, 3, 17abd. Res. Farm housing requirements in Northeast Region.
- BEZANSON**, Anne, Ind. Res. Dept., 3440 Walnut St., Philadelphia 4, Pa. (1918) Univ. of Pennsylvania, Ind. Res. Dept., prof., res. asso.; Rockefeller Found., consult.; res., teach.; A.B., 1915, A.M., 1916, Ph.D., 1929, Radcliffe Col.; Sci.D. (Hon.), 1948, British Columbia. Fields 2a, 1a, 3b. Doc. dis. Earnings and working opportunity in upholstery weavers' trade in twenty-five plants in Philadelphia (Univ. of Pennsylvania Press, 1928). Pub. Wage methods and selling costs (1930). Prices in colonial Pennsylvania (1935). Wholesale prices in Philadelphia—1784-1861 (Part I, 1936, Part II, 1937) (Univ. of Pennsylvania Press). Res. Commodity prices and economic background of the Revolutionary War Period. Dir. W. W. in Amer., Dir. of Schol., Lead. in Educa.
- BIANCHI**, Renzo, Carleton Col., Dept. of Econ., Northfield, Minn. (1946)
- BICKLEY**, John S., Box 1741, University, Ala. (1948)
- BIDGOOD**, Lee, University, Ala. (1911) Univ. of Alabama, School of Com. and Bus. Admin., dean, res., teach.; b. 1884; B.A., 1905, M.A., 1906, Virginia; 1909-11, 1912-13, Wisconsin. Fields 2, 8a. Pub. First explorations of trans-Allegheny region (with C. W. Alvord) (A. H. Clark, Cleveland, 1913); Introductory sociology: a study of American society (with E. W. Gregory, Jr.) (Prentice-Hall, 1939). Dir. W. W. in Amer.
- BIDWELL**, Percy Wells, 58 E. 68th St., New York 21, N.Y. (1912) Coun. on For. Rela., dir. of res., res.; b. 1888; B.A., 1910, M.A., 1912, Ph.D., 1915, Yale. Field 10. Doc. dis. Rural economy in New England (Conn. Acad. of Arts and Sci., 1916). Pub. Tariff policy of U.S. (1933), Our Trade with Britain (1938), The invisible tariff (1939) (Coun. on For. Rela.).
- BIEBER**, George De Walt, 1822 E. 72nd St., Chicago 49, Ill. (1941) Koppers Co., Chem. Div., Midwestern Dist., sales mgr., bus.; b. 1915; B.S., 1937, Franklin and Marshall Col.; M.A., 1939, Ph.D., 1941, Pittsburgh. Fields 11ab, 14a. Doc. dis. Economic position of cotton and other textile fibers. Pub. "Cotton linters as a chemical raw material," July, 1941, "Chemicals for rayon and cellulosic plastics," July, 1943, "Chemicals for phenolic and urea resins," June, 1944, Chem. and Metal. Eng.
- BIGelow**, Howard French, Western Michigan Col. of Educa., Kalamazoo, Mich. (1927)
- BIGelow**, Karl Worth, Teachers Col., Columbia Univ., 525 W. 120th St., New York 27, N.Y. (1925)
- BIGGS**, Robert M., 16574 Parkside Ave., Detroit 21, Mich. (1941) Wayne Univ., Dept. of Econ., instr., teach., res.; b. 1915; M.A., 1940, 1940-45, 1948, Michigan. Fields 1ab, 7, 12. Res. Classical theory of capital, its origins, development, and modification (doc. dis.).
- BIGHAM**, Truman C., Univ. of Florida, Col. of Bus. Admin., Gainesville, Fla. (1928) Univ. of Florida, prof., teach., res., edit.; b. 1896; B.A., 1920, Baylor; M.A., 1925, Chicago; Ph.D., 1927, Stanford. Field 13ab. Doc. dis. Superpower. Pub. Transportation: principles and problems (McGraw-Hill, 1946); Principles of public utilities (with E. Jones) (Macmillan, 1931); "Regulation of minimum rates in transportation," Q.J.E., Feb., 1947. Dir. W.W. in Amer., Lead. in Educa.
- BIGLER**, William R., 86 Highland Ave., Columbus, Ohio. (1946)
- BILLINGS**, Arthur Goodwyn, Delphos, Kan. (1940) Amer. Friends Serv. Com., rep. in Austria, dept. head, res.; b. 1911; A.B., 1933, Kansas; Certif. in Advanced Int. Studies, 1933-34, Univ. of Paris; Certif. in Russian Lang. and Lit., 1934-35, Ecole Nat. des Langues Orientales (Paris); M.A., 1941, Harvard. Fields 4b, 12b, 2. Res. Possibilities and problems of Austrian national economy (doc. dis.); dynamics of a national economy.
- BILLINGS**, Elden Eugene, 127 4th St., S.E., Washington 3, D.C. (1946) Lib. of Cong., Legis. Ref. Serv. Lib., govt. serv.; b. 1913; B.A., 1935, Puget Sound; 1935-36, 1946-48, American. Fields 10, 2b, 4a.
- BILLINGTON**, Wilbur Theodore, Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1946) Univ. of Minnesota, instr., teach.; b. 1922; B.S., 1945, M.A., 1947, Colorado. Fields 3a, 5, 15b.
- BINDER**, (Mrs.) Ruth F., 179 Second St., Troy, N.Y. (1944)
- BING**, Alexander M., 18 E. 48th St., New York, N.Y. (1919)
- BING**, Ralph A., 78-11 Kew Forest Lane, Forest Hills, L.I., N.Y. (1946) Fitch Investors Serv., econ. and fin. anal., res., edit.; b. 1907; Referendar, 1929, Univ. of Munich; Dr. of Law, 1930, Univ. of Erlangen; 1937-39, Grad. Inst. of Int. Studies, Geneva; M.S., 1943, Columbia. Fields 7, 6, 8b. Doc. dis. Law of alimonies and conflict of laws (Otto Meidl Verlag, Munich, 1931). Pub. "Some problems resulting from foreign exchange control," Juristische Wochenschrift (Germany), Jan., 1933; "Double renvoi," Blaetter fuer Internationales Privatrecht, 1931.
- BINGHAM**, Jonathan B., Scarborough, N.Y. (1943)
- BINGHAM**, Vernon Arnt, 7201 Fifth Ave., Kenosha, Wis. (1943) Macwhyte Co., credit mgr., bus.; b. 1902; B.S.C., 1924, New York. Fields 11, 8, 6.
- BIRD**, Francis Henry, 3539 Biddle St., Cincinnati 20, Ohio. (1909) Univ. of Cincinnati, Col.

of Bus. Admin., dean, teach.; b. 1887; A.B., 1909, A.M., 1910, Dartmouth; 1912-13, California; Ph.D., 1917, Wisconsin. Fields 16, 11a, 12b. Doc. dis. Belgian superior council of labor. Pub. "Employment certificate system, Maryland" (with E. A. Merritt) (U.S. Dept. of Labor, 1919); "Cost of living in wage adjustments in book and job branch of Chicago printing industry," A.E.R., 1921. Dir. W.W. in Amer., in Amer. Educa., Dir. of Schol.

BISHOP, Morris Comstock, 1305 Potomac St., N.W., Washington 7, D.C. (1942) Twentieth Century Fund, Survey of Emp. and Wages, res.; b. 1905; A.B., George Washington. Fields 16, 14, 1b.

BISHOP, Philip William, 326 Willow St., New Haven 11, Conn. (1940) Yale Univ., asst. prof., res. asso., res.; b. 1902; B.Com., 1927, London School of Econ.; 1939-42, Yale. Fields 2, 4, 5. Res. Economic history of Scovill Mfg. Co.

BISHOP, Robert Lyle, Mass. Inst. of Tech., 1-279, Cambridge 39, Mass. (1946) M.I.T., asst. prof., teach., res.; b. 1916; A.B., 1937, A.M., 1942, Harvard; 1938-39, Princeton. Fields 1a, 12a, 6. Pub. "Consumer's surplus and cardinal utility," Q.J.E., May, 1943; "Professor Knight and the theory of demand," J.P.E., Apr., 1946; "Alternative expansionist fiscal policies," in Income, employment, and public policy (Norton, 1948). Res. Patents and technology in glass container industry.

BISHOP, Ward L., 516 Warner Ave., Los Angeles, Calif. (1932)

BISSELL, Marie Josephine, Bard Col., Annandale, N.Y. (1947)

BISSELL, Richard Mervin, Jr., 1311 35th St., N.W., Washington, D.C. (1936)

BITTERMANN, Henry John, Treasury Dept., Div. of Monetary Res., Washington 25, D.C. (1928)

BITTING, H. Wayne, 2704 East West Highway, Chevy Chase, Md. (1943)

BLACK, Albert Gain, R.F.D. 1, Staunton, Va. (1925)

BLACK, Henry Rolland Ellis, "Lilacstead," R.D. 2, Wilton, Conn. (1940)

BLACK, John Donald, 12 Lambert Rd., Belmont, Mass. (1919) B. 1883; A.B., 1909, A.M., 1910, Ph.D., 1919, Wisconsin. Fields 15ab, 11b, 17d. Doc. dis. Land tenure in Wisconsin. Pub. Production economics (Holt, 1926); Farm management (Macmillan, 1947); Future food and agriculture policy (McGraw-Hill, 1948). Res. Rural economy of New England; food efficiency; land-use planning. Dir. W.W. in Amer., Int. W.W.

BLACKBURN, Burr, Household Fin. Corp., 919 N. Michigan Ave., Chicago, Ill. (1929)

BLACKBURN, Raymond Franklin, Univ. of Pittsburgh, Pittsburgh 13, Pa. (1939) Univ. of Pittsburgh, dept. head, prof. of statis., teach., res.; b. 1901; B.S., 1925, Pittsburgh; M.A., 1927, Michigan; 1929-31, Columbia; Ph.D., 1939, Pittsburgh. Fields 3ac, 6, 14ab. Doc. dis. A study of sequential relationship between a number of time series representing business and financial conditions and the general business cycle for period 1919-38. Dir. W.W. in Amer. Educa.

BLACKMAN, Herbert N., 4460 N. Pershing Dr., Arlington, Va. (1948) U.S. Dept. of Com., Office of Int. Trade, Reports and Anal. Br., chief, govt. serv.; b. 1913; B.S.S., 1934, Brooklyn Col.; M.A., 1936, Columbia; 1937, 1940, 1947, American. Fields 10, 14a, 2a.

***BLACKMAN, John Leroy, Jr.**, 8 Prescott St., Cambridge 38, Mass. (1948) Simmons Col., special instr.; b. 1903; A.B., 1930, Haverford Col.; A.M., 1948, Harvard. Fields 16, 1ab, 10.

BLADEN, Vincent Wheeler, 67 St. George St., Toronto, Ont., Canada. (1924) Univ. of Toronto, prof., Inst. of Ind. Rela., dir., teach., res.; b. 1900; B.A., 1921, M.A., 1925, Oxford (Balliol Col.). Fields 1ab, 16. Pub. Introduction to political economy (Univ. of Toronto Press, 1941); "Adam Smith on value," in Essays in political economy in honour of E. J. Urwick (Univ. of Toronto Press, 1938); "Mill to Marshall, the conversion of the

economist," Jour. of Econ. Hist., Dec., 1941. Res. History of political economy.

BLAINE, Mrs. Emmons, 101 E. Erie St., Chicago 11, Ill. (1910)

BLAINE, James Cyril Dickson, 105 Johnston St., Victory Village, Chapel Hill, N.C. (1947) Univ. of North Carolina, School of Com., asso. prof. in bus. admin. and transp., teach., res.; b. 1904; B.C., 1934, Queen's (Kingston, Canada); M.S., 1939, Ph.D., 1941, North Carolina. Fields 13b, 11ab, 12a. Doc. dis. Significance of air passenger traffic on domestic scheduled airlines of U.S., 1935-40. Res. Air transportation in southern region.

BLAIR, Jacob J., 765 Gypsy Lane, Country Club Heights, Mt. Lebanon, Pa. (1935)

BLAIR, John M., 3010 Crest Ave., Chevy Chase, Md. (1944)

BLAIR, Morris Myers, Univ. of Tulsa, Col. of Bus. Admin., Tulsa 4, Okla. (1947) Univ. of Tulsa, Col. of Bus. Admin., prof. of econ., teach., res., bus.; b. 1886; B.S., 1928, Southwest Missouri State Teachers Col.; M.A., 1929, Missouri; Ph.D., 1939, Wisconsin. Fields 1a, 3a, 15a. Doc. dis. Economics of conservation (Univ. of Wisconsin, 1939). Pub. Elementary statistics with general applications (Holt, 1944); Levels of living index of the thirteen southern states (Okla. A. and M. Col. Res. Coun., 1939); "Rural land zoning as practical means of land use control in Oklahoma," Proceed. of Okla. Acad. of Sci., 1937.

BLAIS, Marcel, 4309 St. Hubert St., Montreal 34, Que., Canada. (1946)

BLAISDELL, Philip Howard, 1725 Orrington Ave., Evanston, Ill. (1946) Northwestern Univ., instr., teach., res.; b. 1915; A.B., 1937, Miami Univ.; 1937-39, American; 1946-48, Northwestern. Fields 12, 14b, 10. Pub. Geographical differentials in prices of building materials (co-author) (TNEC Mono. 33, 1940).

BLAKE, Archie, 223 N. George Mason Dr., Arlington, Va. (1946) Dept. of Army, Office of Surgeon Gen., res., edit.; b. 1906; B.S., 1929, M.S., 1931, Ph.D., 1937, Chicago. Fields 3a, 6, 1c. Doc. dis. Canonical expressions in Boolean algebra (Univ. of Chicago Press, 1937). Pub. Mathematical problems in seismology (Trans. Amer. Geophys. Union, 1940); "Criteria for reality of apparent periodicities and other regularities," Bur. Central Séismologique Int., 1946; "Recording of strong seismic motion," Bul. of Seismological Soc. of Amer., 1933. Res. Inverse probability; periodicity. Dir. W.W. in East.

BLAKE, Edwin Mortimer, P. O. Box 210, Mount Kisco, N.Y. (1909) Retired; b. 1868; E.M., 1890, Ph.D., 1893, Columbia.

BLAKEY, Roy Gillispie, Univ. of Minnesota, 127 Vincent Hall, Minneapolis 14, Minn. (1912) Univ. of Minnesota, prof. of econ., teach., res., govt. serv.; b. 1880; 1900-01, Missouri; Ph.B., 1905, LL.D., 1940, Drake; M.A., 1910, Colorado; Ph.D., 1912, Columbia; 1922-23, London School of Econ. Fields 9, 10. Doc. dis. U.S. beet sugar industry and tariff (Columbia Univ., 1912). Pub. Federal income tax (with G. C. Blakey) (Longmans, Green, 1940); Taxation in Minnesota (with others) (Univ. of Minnesota Press, 1932); "Federal revenue acts (series), A.E.R., Amer. Polit. Sci. Rev., 1914-44. Res. Minneapolis administration and finance. Dir. W.W. in Amer., in Bus., in Authors. Lead. in Educa.

BLANCATO, Alfred F., 8612 18th Ave., Brooklyn 14, N.Y. (1946) Pan American Airways, statis., res., bus.; b. 1925; B.B.A., 1946, City of New York. Fields 11c, 8a, 14.

BLANCHARD, Ralph Harrub, Columbia Univ., School of Bus., New York 27, N.Y. (1912) Columbia Univ., School of Bus., prof. of ins., teach., edit., res.; b. 1890; A.B., 1911, A.M., 1912, Dartmouth; Ph.D., 1916, Pennsylvania. Fields 17b, 8c, 12b. Doc. dis. Industrial accidents and workmen's compensation. Pub. Liability and compensation insurance (Appleton, 1917); Workmen's compensation in U.S. (Int. Labor Office, 1926); "Compulsory motor vehicle liability insurance in

Massachusetts," Law and Contemp. Prob., Oct., 1936. Dir. W.W. in Amer.

*BLANK, David M., 18 Vernon Pkwy., Mt. Vernon, N.Y. (1946) Columbia Univ., lecturer, teach., res.; b. 1921; B.A., 1941, 1946-48, Columbia. Fields 9, 6, 12a. Res. New York City-New York State fiscal relations.

BLASER, Arthur F., Jr., 39 St. Georges Ct., Gloucester Rd., London S.W. 7, England. (1940)

BLAU, Gerda J., 2321 Ashmead Pl., N.W., Washington, D.C. (1947)

BLAZEJ, Zdenko, Nat. Bank of Czech., Prague, Czech. (1947)

BLISS, Charles Andresson, Lincoln, Mass. (1928) Harvard Bus. School, prof., teach., res.; b. 1904; A.B., 1926, M.A., 1929, California; Ph.D., 1939, Columbia. Fields 11a, 3a, 14a. Pub. Structure of manufacturing production (Nat. Bur. of Econ. Res., 1939).

BLISS, Zenas W., 238 Armington St., Edgewood, R.I. (1912)

BLITMAN, Samuel, 1929 16th St., N.W., Washington 9, D.C. (1946)

*BLOCH, Ernest, 229 E. 21st St., New York 10, N.Y. (1948)

BLOCH, Henry Simon, Dept. of Security Coun. Affairs, Lake Success, N.Y. (1938) United Nations, Dept. of Security Coun. Affairs, Armaments and Enforcement Measures, chief of sec., res., bus., govt. serv.; b. 1915; Dr. of Laws and Econ., 1937, Univ. of Nancy; 1936, Univ. of Strasbourg and Paris; 1937, Acad. of Int. Law, The Hague. Fields 2b, 4a, 10. Doc. dis. La Théorie des Besoins de Carl Menger (Librairie Générale de Droit, Paris, 1937). Pub. Economics of military occupation (with Hoselitz) (Univ. of Chicago Press, 1943); Economic mobilization (co-author) (Amer. Coun. on Pub. Affairs, 1941); "International tax relations" (co-author), Yale Law Jour., Summer, 1946. Res. Armaments and enforcement measures; India-Pakistan problems.

BLOCH, Herman David, Univ. of Toledo, Toledo 6, Ohio. (1946) Univ. of Toledo, teach., res.; b. 1914; B.A., 1938, Brooklyn Col.; 1938-40, Chicago; 1940-42, New School for Soc. Res. Fields lab, 16, 4b. Pub. "Wage levels in manufacturing during wartime," Monthly Labor Rev., Oct., 1943. Res. Industry-wide bargaining and cost.

BLOCH, Max, Manpower Div., OMGUS, APO 742, c/o Postmaster, New York, N.Y. (1948)

BLOCK, Herbert, 3613 Gunston Rd., Parkfairfax, Alexandria, Va. (1941) Dept. of State, acting sec. chief, govt. serv.; b. 1903; 1921-23, Univ. of Berlin; 1924-25, Univ. of Vienna; dipl. rer. pol., 1924, Dr. Polit. Econ., 1926, Univ. of Freiburg i.B. Fields 10, 12, 2b. Doc. dis. Die Marx'sche Geldtheorie (Gustav Fischer Verlag, Jena, 1926). Pub. Monetary theory, "Bank of England," in Handwörterbuch des Bankwesens (Berlin), 1932; "Manpower allocation in Germany," Harvard Bus. Rev., Winter, 1943; "Changes in European transportation," Soc. Res., May, 1944.

BLODGETT, Ralph Hamilton, Univ. of Illinois, 226 David Kinley Hall, Urbana, Ill. (1935) Univ. of Illinois, prof. of econ., teach.; b. 1905; B.S., 1927, Vermont; A.M., 1928, Syracuse; Ph.D., 1933, Pennsylvania. Fields 1a, 4a, 5. Doc. dis. Cyclical fluctuations in commodity stocks (Univ. of Pennsylvania Press, 1935). Pub. Economics: principles and problems (Harper, 1937, 1942, 1948); Principles of economics (Rinehart, 1941, 1946); Comparative economic systems (Macmillan, 1944). Dir. W.W. in Amer., Dir. of Schol.

BLOMBERG, Chester Le Roy, 2104 Selma St., New Orleans 19, La. (1943) U.S. Civil Serv. Com., Qualif. Sec., chief, govt. serv.; b. 1911; B.S., 1933, M.S., 1935, Illinois. Fields 7, 11c, 8a.

BLOOD, Archer K., 145 N. Princeton, Lynchburg, Va. (1947)

BLOOM, Adele, State Teachers Col., River Falls, Wis. (1948) State Teachers Col., instr., teach.; b. 1907; B.A., 1945, Hunter Col.; M.A., 1947, Chicago. Fields 16, 1ab, 7. Pub. "Social security," 1943, 1944, Britannica Book of Year; "Social security," Collier's Yearbook, 1944. Res.

Social security for American agriculture (doc. dis.).

BLOOM, Martin, 1727 N. Fairfax Dr., Arlington, Va. (1947)

BLOOM, Max Robert, 2901 Erie St., S.E., Washington 20, D.C. (1940) U.S. Dept. of Com., Office of Int. Trade, Far Eastern Br., acting chief, govt. serv., res.; b. 1916; B.S.S., 1939, City of New York; Certif., 1940, New School for Soc. Res.; 1940-48, American. Fields 10, 1ab, 15de.

BLOOMBERG, Lawrence Nelson, Longfellow Bldg., Room 1103, Washington 25, D.C. (1935) Pub. Hous. Admin., asso. chief econ.; American Univ., lecturer; govt. serv., teach.; b. 1909; B.A., 1930, Richmond; M.A., 1933, Ph.D., 1934, Johns Hopkins. Fields 15e, 12a, 8b. Doc. dis. Investment value of goodwill (Johns Hopkins Press, 1933). Pub. America's needs and resources (res. asso.) (Twentieth Century Fund, 1947); "Rent control and housing shortage," Jour. of Land and Pub. Util. Econ., May, 1947; "Statistical examination of mortgage experience," Savings Banker, Jan., Feb., 1942.

BLOOMFIELD, Arthur Irving, Fed. Res. Bank, 33 Liberty St., New York 45, N.Y. (1938) Fed. Res. Bank of N.Y., Balance of Payments Div., chief, res.; b. 1914; B.A., 1935, M.A., 1936, McGill; Ph.D., 1942, Chicago. Fields 10, 1ab, 1. Doc. dis. International capital movements and American balance of payments: 1929-40. Pub. "Mechanism of adjustment of American balance of payments: 1919-29," Q.J.E., May, 1943; "Foreign exchange rate theory and policy," in New economics (edit. by S. E. Harris) (1947); "Operations of American Exchange Stabilization Fund," Rev. of Econ. Statis., May, 1944. Dir. W.W. in Amer. (monthly sup.), in Com. and Ind.

BLOOMFIELD, Daniel, 80 Federal St., Boston 10, Mass. (1934) Retail Trade Bd. of Boston, mgr.; Boston Conf. on Dist., dir.; bus. edit.; b. 1890; A.B., 1912, Harvard; 1912-13, Harvard Law School; LL.B., 1915, Boston Univ. Fields 11ab, 17d. Pub. Labor maintenance (Ronald Press, 1920); Trends in retail distribution (1931), Chain stores and legislation (1939) (H. W. Wilson). Dir. W.W. in Amer., Among North Amer. Authors, in Com. and Ind., Int. W.W.

BLOUGH, J. Roy, 1126 E. 59th St., Chicago 37, Ill. (1924) Univ. of Chicago, prof., teach., res., edit., govt. serv.; b. 1901; A.B., 1921, LL.D., 1944, Manchester; M.A., 1922, Ph.D., 1929, Wisconsin. Fields 9, 4a, 6. Doc. dis. Geographical problem in Wisconsin taxation (Wis. Tax. Com., 1930). Pub. Facing the tax problem (joint author) (Twentieth Century Fund, 1937); "Conflict and harmony in taxation," Proceed., Amer. Phil. Soc., 1944; "Economic research and tax policy," A.E.R. June sup., 1944. Res. Federal tax policy since 1930; effectiveness of taxation as a method of controlling inflation. Dir. W.W. in Amer., Dir. of Schol.

BLUM, Fred H., 1804 N. Oak St., Arlington, Va. (1946) Howard Univ., lecturer in econ., teach., res.; b. 1914; 1935, State Technicum for Textile Industry Reutlingen; Lic. es sci. econ., 1938, Univ. of Geneva; 1939, Grad. Inst. of Int. Studies, Geneva; 1943, California; 1947-48, Washington School of Psychiatry. Fields 4b, 1b, 16. Pub. "Meaning of Max Weber's postulate of freedom from value judgments," Amer. Jour. of Soc., July, 1944; "Marginalism and economic policy," A.E.R., Sept., 1947. Res. Impact of wage guarantees on human relations in industry.

BLUM, Jay William, Gambier, Ohio. (1937)

BLUM, Robert, 3721 Lyons Lane, Parkfairfax, Alexandria, Va. (1947)

BLUMBERG, Aaron J., 399 E. Cliveden St., Philadelphia 19, Pa. (1944) Real Estate Market Survey, econ., edit., res.; b. 1919; B.A., 1939, Pennsylvania. Fields 6, 8b, 17d. Res. Assembling and analyzing data on trends in real estate prices in Philadelphia.

BOALS, Gordon P., 3201 36th St., N.W., Washington 16, D.C. (1929)

BOATWRIGHT, John Wilbur, 910 S. Michigan Ave., Chicago 80, Ill. (1931) Standard Oil Co.

(Ind.), Dist. Econ. Dept., gen. mgr., bus.; b. 1903; B.A., 1927, William Jewell Col.; M.A., 1929, American; Ph.D., 1932, Northwestern. Fields 11ab, 12a, 1a. Doc. dis. Evolution of doctrines of trade and unlawful monopoly as expressed by Supreme Court in interpretation of Anti-Trust Act. Pub. "Competition and electric rates," Jour. of Land and Pub. Util. Econ., May, 1931; "Principles and procedures for putting across business statistics reports to executives," Jour. of Amer. Statist. Asso., June, 1941; "Today's fuel oil problems," Amer. Petrol. Inst., Nov. 11, 1947.

BOBBITT, Pearl Burkhead, 3711 Barrington Rd., Baltimore 15, Md. (1947) Western Maryland Col., instr. of econ. and math., teach.; b. 1921; A.B., 1941, Western Maryland Col.; M.A., 1948, Duke. Fields 16, 1a, 3ac.

BOBER, Mandell Morton, Lawrence Col., Appleton, Wis. (1927) Lawrence Col., prof., teach.; b. 1891; B.S., 1918, Montana; 1919, Univ. of Lyons, France; Ph.D., 1925, Harvard. Fields 1b, 4a, 12a. Doc. dis. Karl Marx's interpretations of history (Harvard Univ. Press, 1927, 2nd ed., 1948). Pub. "Economic assumptions and monopoly," in Explorations in economics (McGraw-Hill, 1936); "Price and production policies," June, 1942; "Marx and economic calculation," June, 1946, A.E.R. Dir. W. W. in Amer., Dir. of Schol., Lead. in Educa.

BOBER, William C., Johns Manville Corp., 22 E. 40th St., New York, N.Y. (1939)

BODDY, Francis Murray, Univ. of Minnesota, School of Bus. Admin., Minneapolis 14, Minn. (1934)

BODENHORN, George Diran, 6004 S. Woodlawn Ave., Chicago 37, Ill. (1948) Univ. of Chicago, student; b. 1925; attended Col. of City of New York. Fields 1a, 7, 3.

BODFISH, Morton, 221 N. La Salle St., Chicago 1, Ill. (1926) U.S. Savings and Loan League, Exec. Com., chmn.; First Fed. Savings and Loan Asso., pres., chmn. of bd., bus., res.; b. 1902; B.S., 1924, M.A., 1926, Ohio State; 1925, Chicago; 1927-28, Northwestern. Fields 15ade, 8ac, 11. Pub. Savings and loan principles (Prentice-Hall, 1940); Money lending practices (Ohio State Univ. Press, 1927). Dir. W.W. in Amer.

BOEDECKER, Karl A., 3926 Briargate Ave., Knoxville, Tenn. (1948) Univ. of Tennessee, Col. of Bus., asso. prof., dept. head, teach.; b. 1913; Ph.B., 1937, Ph.M., 1941, Ph.D., 1948, Wisconsin. Fields 8ab, 7, 12. Doc. dis. Critical appraisal of antitrust policy of U.S. government from 1933 to 1945. Res. Basing point price system; postwar airline financial problems.

BOEHMLER, Erwin William, Invest. Bankers Asso. of Amer., 33 S. Clark St., Chicago 3, Ill. (1939) Invest. Bankers Asso. of Amer., educa. dir.; Northwestern Univ., School of Com., prof. lecturer in fin., course chmn.; bus., edit., teach.; b. 1899; B.S., 1923, J.D., 1927, M.B.A., 1931, Northwestern. Fields 8ab, 7, 11a. Pub. Investment trusts (1930), General management funds (1931), Fixed investment trusts—criteria for gauging unit trust shares (1931) (Chicago Jour. of Com. Pub. Co.). Dir. W.W. in Amer., Who Knows.

BOER, Arend Edward, Univ. of Pittsburgh, Pittsburgh 13, Pa. (1937) Univ. of Pittsburgh, prof., dept. head, teach., res.; b. 1899; A.B., 1923, M.A., 1930, Michigan; 1928-30, Minnesota and Ohio State; Ph.D., 1936, Pittsburgh. Fields 11b, 12a, 4c. Doc. dis. Retail store mortality in Pittsburgh. Pub. "Economic aspects of store mortality," Univ. of Pittsburgh Bul., June, 1936; "Store mortality rates," Jour. of Mktg., 1937.

BOETTNER, Herbert Frank, First Nat. Bank, St. Louis 2, Mo. (1922) First Nat. Bank in St. Louis, vice-pres.; b. 1891; B.A., 1915, Washington Univ. Fields 7, 3a, 8. Pub. "How gold imports and bank credit have created inflated capital values in U.S.," 1927, "Need for price index of capital goods," Jan. 13, 1928, The Annalist; Politically managed money in an era of international currency debasement (1938).

††**BOGART**, Ernest Ludlow, 25 W. 10th St.,

New York 11, N.Y. (1897) Univ. of Illinois, prof. emeritus, econ., teach., dept. head, res., edit.; b. 1870; A.B., 1890, A.M., 1896, Princeton; Ph.D., 1897, Univ. of Halle. Fields 2a, 10, 9. Doc. dis. Das Finanzwesen der Einzelstaaten der nord-amerikanischen Union (Jena, 1898). Pub. War costs and their financing (Appleton-Century, 1921); Economic history of American people (1930, 4th ed., 1947), Economic history of Europe, 1760-1939 (1942) (Longmans, Green). Dir. W.W. in Amer., Lead. in Educa., Int. W.W.

BOGEN, Jules I., 315 106th St., New York 25, N.Y. (1931) New York Univ., Grad. School of Bus. Admin., prof., teach.; b. 1903; B.S., 1922, A.M., 1924, Ph.D., 1927, Columbia. Fields 8ab, 7, 1a. Doc. dis. Anthracite railroads (Ronald Press, 1927). Pub. Analysis of railroad securities (1928), Financial handbook (1948) (Ronald Press); Investment banking (Harper, 1929-36). Res. Investment banking trends. Dir. W.W. in Amer.

BOHAN, Richard Timothy, 2008 S. 10½ St., Terre Haute, Ind. (1938)

BOHLMAN, Herbert William, 1301 37th St., Des Moines 11, Iowa. (1924) Drake Univ., prof. of econ., dean, Grad. Div., teach., res.; b. 1896; B.A., 1919, Lawrence; M.A., 1922, Ph.D., 1936, Wisconsin. Fields 12, 16, 1. Doc. dis. Cost of distributing consumer goods. Pub. Our economic problems (with E. M. Bohlman) (1942); Labor market in Iowa, characteristics and trends (1937). Dir. W.W. in Amer.

BOHN, Carl, 331 Bement Ave., Staten Island 10, N.Y. (1936) Port Richmond High School, teacher; b. 1904; B.S., in Econ., 1927, M.A., 1931, Pennsylvania; 1947-48, Columbia. Fields 12, 16, 1ab.

BOLD, Elliot, 3978 S. Ellis Ave., Chicago 15, Ill. (1948) Orange-Crush Co., statis., bus., res.; b. 1920; B.S., 1940, City of New York; M.A., 1947, American. Fields 11, 3c, 14.

BOLD, Ethel, 263 Brooklyn Ave., Brooklyn 13, N.Y. (1945) Amer. Soc. of Comp., Authors, and Pub., admin. asst., bus.; B.A., 1944, Brooklyn Col.; M.B.A., 1947, New York. Fields 8b, 9, 7.

BOLDEN, Norman Ray, 1096 Prospect Pl., Brooklyn, N.Y. (1932)

***BOLES**, James N., 4441 47th St., San Diego 5, Calif. (1947)

BOLLINGER, W(endell) La Mar, Col. of Idaho, Caldwell, Idaho. (1947)

BOLTON, Edward, c/o Messrs. Paterson Zochonis & Co., Ltd., P.O. Box 62, Accra, Gold Coast, B.W.A. (1947)

BONBRIGHT, James Cummings, Columbia Univ., New York 27, N.Y. (1915) Columbia Univ., prof. of fin., teach., res.; b. 1891; B.S., 1913, Northwestern; Ph.D., 1920, Columbia. Fields 13a, 8a. Doc. dis. Railroad capitalization (Columbia Univ. Press, 1920). Pub. Holding company (with G. C. Means) (1932), Valuation of property (1937) (McGraw-Hill); Public utilities and national power policies (Columbia Univ. Press, 1940). Res. Principles of public utility rate making and rate control. Dir. W.W. in Amer., in Com. and Ind.

BOND, Floyd A., Pomona Col. Dept. of Econ., Claremont, Calif. (1939) Pomona Col., Dept. of Econ., dept. head, prof. of econ., teach., res.; b. 1913; B.A., 1938, M.A., 1940, Ph.D., 1942, Michigan. Fields 12, 1, 13. Doc. dis. Washtenaw Gas Company, a study in public utility regulation. Pub. Public regulation in action (Bur. of Govt., Univ. of Michigan, 1948).

BONDE, Ruth Lillian, Northwestern Univ., 318 Fisk Hall, Evanston, Ill. (1941) Northwestern Univ., prof., dept. head, teach.; b. 1905; B.S., 1936, Minnesota; M.S., 1940, Iowa State Col. Fields 17, 7, 8. Pub. Management in daily living (Macmillan, 1945).

BONER, J. Russell, ESS, GHQ, SCAP, APO 500, c/o Postmaster, San Francisco, Calif. (1937) Dept. of Army, Far East Command, Dist. Br., chief, govt. serv.; b. 1901; B.A., 1928, Univ. of Colorado; M.A., 1937, Ph.D., 1942, Illinois. Fields 12b, 8a, 10. Doc. dis. Background, extent and consequences of federalization of savings and loan associations.

- BONNELL, Allen Thomas**, Drexel Inst. of Tech., Philadelphia 4, Pa. (1936) Drexel Inst. of Tech., vice-pres.; b. 1912; B.A., 1933, M.A., 1934, Oberlin; 1935-36, Univ. of Bonn; Ph.D., 1937, Illinois. Fields 10, 2, 4. Doc. dis. German control over international economic relations, 1930-37. Pub. German control over international economic relations, 1930-40 (Univ. of Illinois Press, 1940); "Postwar international economic order," Southern Econ. Jour., July, 1942; "Food for the free," Soc. Action, Apr., 1944.
- BONNELL, Elwyn Thomas**, 4127 N. Henderson Rd., Arlington, Va. (1947) U.S. Dept. of Com., Office of Bus. Econ., Nat. Income Div., econ. anal., govt. serv., res., edit.; b. 1920; A.B., 1942, Michigan State Col. Fields 5, 6, 9. Pub. "Public and private debt in the U.S.," Sept., 1946, "Public and private debt in 1946," Sept., 1947, Survey of Cur. Bus. (U.S. Dept. of Com.). Res. Review of Department of Commerce debt statistics with respect to usefulness as components of a national balance sheet; public and private debt in 1947.
- BONNELL, Virginia Crosswhite** (Mrs. Elwyn T.), 4127 N. Henderson Rd., Arlington, Va. (1948) U.S. Dept. of Com., Central Intel. Agency, econ. anal., govt. serv.; b. 1922; 1941, Cottey Col.; B.A., 1943, Wichita; 1943-48, George Washington. Fields 2, 10, 4.
- BONNETT, Clarence Elmore**, 7311 Hurst St., New Orleans 18, La. (1936)
- BOOKBINDER, Albert I. A.**, 1258 E. 27th St., Brooklyn 10, N.Y. (1945) Quartermaster Purchasing Office, chief statis., dept. head, govt. serv., res.; b. 1917; B.A., 1938, Brooklyn Col.; M.A., 1939, Columbia; 1942-44, Pennsylvania. Fields 6, 8ab, 3.
- BOOKBINDER, Hyman H.**, 1224 E. 8th St., Brooklyn 30, N.Y. (1948)
- BOONE, Gladys**, Sweet Briar Col., Sweet Briar, Va. (1928) Sweet Briar Col., prof., dept. head, teach., res.; b. 1895; B.A., 1916, M.A., 1917, Univ. of Birmingham, England; Ph.D., 1941, Columbia. Fields 16, 4a, 2a. Doc. dis. Women's trade union leagues in Great Britain and U.S.A. (Columbia Univ. Studies, 1941). Pub. Labor laws of Virginia (Univ. of Virginia, Bur. of Pub. Admin., 1940); Household employment in Lynchburg, Virginia (Y.W.C.A., 1937); Labor laws of twelve southern states (Nat. Consumers' League, 1934-36). Res. International trade in four industries; E.R.P.
- BOONIN, Lawrence I.**, 908 N. 64th St., Philadelphia 31, Pa. (1943) B. 1922; B.S. in Econ., 1943, Pennsylvania; 1946, Harvard Law School. Fields 8a, 16, 1a.
- BOOTH, Samuel Lees**, R.D. 3, Baldwinsville, N.Y. (1947) Syracuse Univ., grad. asst., res., teach.; b. 1916; 1932-33, Hobart Col.; A.B., 1947, M.A., 1948, Syracuse. Fields 3, 1, 9.
- BOOTHE, Viva Belle**, Ohio State Univ., Bur. of Bus. Res., Columbus 10, Ohio. (1941) Ohio State Univ., Bur. of Bus. Res., prof., dir., res., edit.; b. 1893; A.B., 1918, Texas; M.A., 1920, Ph.D., 1923, Pennsylvania. Fields 3c, 6, 2b. Doc. dis. Political party as a social process (privately printed, 1923). Pub. Salaries and cost of living in state universities, 1913-32 (1932). Seasonality of employment in Ohio industries (1940). Bul. of Bus. Res. (monthly) (editor) (Ohio State Univ., Bur. of Bus. Res.). Res. Trend in earnings in Ohio industry, 1935-47. Dir. W.W. in Amer., Dir. of Schol.
- BOPP, Karl Richard**, Fed. Res. Bank, 925 Chestnut St., Philadelphia, Pa. (1936)
- BORAK, Arthur M.**, Univ. of Minnesota, School of Bus. Admin., Minneapolis 14, Minn. (1927) Univ. of Minnesota, asso. prof., teach., res., govt. serv.; b. 1900; B.S., 1923, M.A., 1925, Ph.D., 1929, Minnesota. Fields 9, 8ab, 1ab. Doc. dis. Financial history of Chicago, Milwaukee and St. Paul Railway Company (Jour. of Bus. and Econ. Hist., Dec., 1930). Pub. Fees and other non-tax revenues of Minnesota local units (Univ. of Minnesota Press, 1935); "Minnesota changes its tax system," Bul. of Nat. Tax Asso., Apr., May, 1938; "Tax equivalents versus taxes of municipal and private utilities in Minnesota," Jour. of Land and Pub. Util. Econ., Nov., 1947.
- BORCH, Einar A.**, Stop 63 Lake Rd., Avon Lake, Ohio. (1943)
- BORCHARDT, Harvard George**, 2620 S. Decatur St., Denver 10, Colo. (1946) NLRB, field examiner, govt. serv.; b. 1917; 1936-38, Northwestern Col. (Watertown, Wis.); B.A., 1940, M.A., 1941, Wisconsin. Fields 16, 12b, 6.
- BORDEN, Neil Hopper**, Morgan Hall 325, Soldiers Field, Boston 63, Mass. (1925) Harvard Grad. School of Bus. Admin., prof. of adv., teach.; b. 1895; A.B., 1919, Univ. of Colorado; M.B.A., 1922, Harvard. Fields 11b, 12a. Pub. Economic effects of advertising (Richard D. Irwin, 1942); National advertising in newspapers (with M. D. Taylor and H. T. Hovde) (Harvard Univ. Press, 1946); Problems in advertising (McGraw-Hill, 3rd ed., 1937). Dir. W.W. in Amer., Int. W.W.
- BORDEN, Sidney**, Wayne Univ., Detroit, Mich. (1947) Wayne Univ., instr., teach., res.; b. 1918; B.S., 1942, City of New York; 1942, 1946-47, New York. Fields 9, 17abd, 15de, Pub. Compulsory sickness compensation for New York State (co-author) (Nat. Ind. Conf. Bd., 1947); "Potatoes—more potatoes," Conf. Bd. Bus. Record, July, 1947. Res. Exemption of real property from taxation in U.S. (doc. dis.); town and country planning in Great Britain.
- BORDERS, William G.**, 3803 Kansas Ave., N.W., Washington 11, D.C. (1946)
- BORGEN, Harold**, 3457 Eastchester Rd., Bronx, New York 67, N.Y. (1948)
- BORKIN, Joseph**, 1017 Ring Bldg., Washington 6, D.C. (1948)
- BORNEMANN, Alfred H.**, 1618 Jefferson Ave., Brooklyn 27, N.Y. (1939) Long Island Univ., teach., res.; b. 1908; B.A., 1933, M.A., 1937, Ph.D., 1941, New York. Fields 7, 6.
- BORTH, Daniel**, Univ. of Illinois, Col. of Com., Urbana, Ill. (1935) Univ. of Illinois, prof., teach.; b. 1904; B.S., 1927, Kansas; M.S., 1928, Ph.D., 1932, Illinois; 1933-35, Univ. of Illinois Law School. Fields 11c, 12b. Doc. dis. Capitalization of public service corporations—its relation to rate base, rate of return and service. Pub. Report of the auditor—Louisiana State University, 1939-40 (Louisiana State Univ.); "Balance sheet items held in trust, in bailment or as agent," Jour. of Accountancy; "Donated fixed assets," Acctg. Rev. Res. Inventory accounting practices and income determination; accounting conventions and economic reality.
- BORTZ, Nelson Markley**, 7105 Wilson Lane, Bethesda 14, Md. (1932) U.S. Bur. of Labor Statis., econ., govt. serv.; b. 1908; B.S., 1930, Ursinus Col.; M.A., 1931, Clark Univ.; 1931-32, Pennsylvania. Fields 16, 13b, 10.
- BOSCHAN, Charlotte Friederike** (Mrs. Paul), 104 W. 40th St., New York 18, N.Y. (1948) Index Number Inst., anal., res., bus.; b. 1918; B.S., 1946, New York. Fields 3b, 5, 11c.
- BOSCHAN, Paul**, 104 W. 40th St., New York 18, N.Y. (1948) Econometric Inst., chief. anal., res., bus.; b. 1903; Ph.D., 1934, Univ. of Vienna. Fields 3, 6, 5. Doc. dis. Entwicklung von Quadraturformeln mit Restglied (Vienna, 1934). Pub. Oesterreichische Sterbetafel 1930-33 (Fachverband der Ost Versicherungs Ges., 1936). Some considerations concerning probability in actuarial science and foundation of extended life table (Int. Cong. of Actuaries, 1940); Effects of inventory accumulation on demand (Econometric Soc., meeting, Dec., 1941).
- BOSLAND, Chelcie Clayton**, 90 Chapman Ave., Greenwood, R.I. (1925) Brown Univ., prof., dept. head, teach., res.; b. 1901; 1918-19, South Dakota State Col.; B.S., 1923, M.A., 1924, Minnesota; Ph.D., 1929, Michigan. Fields 8ab, 12b, 9. Doc. dis. A study of common stock prices. Pub. Common stock theory of investment (Ronald Press, 1937); "Investment Company Act of 1940 and its background," J.P.E., Aug., Oct., 1941; "Flexible utility rates," Jour. of Land and Pub. Util. Econ., May, 1934. Dir. W.W. in Amer., Dir. of Schol.
- BOSS, Irwin Simon**, 515 W. 183rd St., New

- York 33, N.Y. (1947) Vet. Admin., contact rep., res., govt. serv.; b. 1912; B.A., 1941, City of New York; 1942-43, New School for Soc. Res.; 1943-44, Stanford; 1946-48, New York. Fields 16, 1, 4. Res. Guaranteed wages (master's thesis).
- BOSTWICK**, Dudley Chase, 402 N. West St., Falls Church, Va. (1943)
- BOTHWELL**, Wilber Clarence, Drury Col., Springfield, Mo. (1947)
- BOUDIN**, Louis B., 1776 Broadway, New York 19, N.Y. (1912)
- BOULDING**, Kenneth Ewart, Iowa State Col., Dept. of Econ., Ames, Iowa. (1945) Iowa State Col., prof., teach., res.; b. 1910; B.A., 1931, M.A., 1938, Oxford Univ. Fields 1, 16, 9. Pub. Economic analysis (Harper, 1941, 2nd ed. 1948); Economics of peace (Prentice-Hall, 1945); "A liquidity preference theory of market prices," *Economica*, May, 1944. Res. A reconstruction of economics. Dir. W.W. in Amer.
- BOUNIATIAN**, Mentor, 6, Cité Martignac, 111, rue de Grenelle, Paris 7, France. (1947) Ministry of Foreign Affairs, Office of Armenian Refugees, dir., res., teach., govt. serv.; b. 1877; Dr. of Polit. Sci., 1903, Munich; Magister of Polit. Econ., 1915, Moscow. Fields 6, 1ac, 7. Doc. dis. Geschichte der Handelskrisen in England, 1640-1840 (Reinhardt, Munich, 1907). Pub. Les crises économiques, Paris, 1922 et 1930 (1930); German ed., 1907; Russian ed., 1915), La loi de variation de la valeur et les mouvements généraux des prix (1926), Crédit et conjoncture (1933) (Librairie Générale de droit, Paris).
- *BOURNE**, Howard Arthur, 5757 University Ave., Chicago 37, Ill. (1947) U.S. Army Air Force, instr., govt. serv.; b. 1916; A.B., 1937, Doane Col.; M.A., 1940, 1946-48, Chicago. Fields 1, 7, 16. Res. Economic postulates behind the social policies of a number of leading American and European theologians.
- BOURNE**, Raymond D., 118 E. Vine St., Oxford, Ohio. (1943)
- BOURNE**, Richard Mason, Univ. of Nebraska, Lincoln 8, Neb. (1945) Univ. of Nebraska, instr., teach.; b. 1907; B.S., 1931, Colorado Col. of A. and M.A.; M.S., 1932, Illinois; 1937-38, Southern California; 1945-48, Nebraska. Fields 16, 1a. Pub. Resources of Wyoming (Wyom. Pub. Serv. Com., brief filed with I.C.C., 1942). Res. Theory of price control under OPA (doc. dis.).
- BOURNE**, William Nettleton, 34 Buckingham St., Cambridge 38, Mass. (1940) Northeastern Univ., instr., teach.; b. 1896; A.B., 1917, Yale; A.M., 1920, 1937-42, Harvard; summer, 1921, Columbia. Fields 15ade, 1ab, 2a.
- BOUVIER**, Emile, Montreal Univ., Ind. Rela. Dept., Montreal, Que., Canada. (1941)
- BOVET**, Eric David, 2702 Wisconsin Ave., N.W., Washington 7, D.C. (1942) Res. and Develop. Bd., Budget and Fiscal Br., chief, govt. serv.; b. 1900; B.A., 1920, Gymnase de Neuchatel, Switzerland; B.D., 1925, Fac. de Théologie, Lausanne; M.A. (Econ.), 1927, Cand. Ph.D., 1927, Geneva. Fields 1a, 6, 11b. Doc. dis. Modern distribution techniques. Pub. "Fresh study of profit motive aimed at economic stability," *Christian Sci. Mon.*, Jan. 3, 1945. Res. Theory of distribution with particular reference to generation of economic instability and stagnation and their prevention.
- BOWEN**, Howard Rothmann, Univ. of Illinois, Col. of Com., Urbana, Ill. (1936) Univ. of Illinois, Col. of Com., dean; b. 1908; B.A., 1929, M.A., 1933, State Col. of Washington; Ph.D., 1933, Iowa. Fields 1a, 9, 6. Doc. dis. Theory of gold movements (A.E.R., 1936). Pub. Toward social economy (Rinehart, 1948); Iowa income (Bur. of Bus. Res., Univ. of Iowa, 1935); Money and prices (Irving Trust Co., 1947). Res. Business expectations and economic fluctuations. Dir. W.W. in Amer.
- BOWERS**, Edison Louis, Ohio State Univ., Commerce Bldg., Columbus, Ohio. (1923)
- BOWERS**, Robert Scott, Western Michigan Col., Kalamazoo, Mich. (1947) Western Michigan Col., asso. prof., teach.; b. 1911; B.A., 1933, Kansas Wesleyan Univ.; M.A., 1938, American; 1933-35, Northwestern; 1945-46, 1947-48, Wisconsin. Fields 16, 4c, 7. Res. Labor policies of N.A.M. (doc. dis.).
- BOWERS**, Russell, Carnegie Inst. of Tech., Pittsburgh 13, Pa. (1946) Carnegie Inst. of Tech., asso. prof., teach.; b. 1902; A.B., 1925, Miami Univ.; A.M., 1929, Illinois; Ph.D., 1940, Michigan. Fields 1a, 11c, 8a. Doc. dis. Realization of income and federal income tax procedure (Univ. of Michigan, 1940). Pub. "Fixed liabilities," Sec. 17, Accountants handbook (Ronald Press, 1943); "Efficient approach to teaching of accounting," 1947, "Economic and accounting concepts," 1945, *Acctg. Rev.*
- BOWIE**, Lloyd Wendel, 123 W. 14th St., Davenport, Iowa. (1947) St. Ambrose Col., asst. prof. of com., teach.; b. 1907; A.B., 1932, Iowa Wesleyan; summer, 1941, Drake; M.A., 1947, Iowa. Fields 11ab, 16, 6.
- BOWLER**, John Francis, 4935 Jackson Blvd., Chicago 44, Ill. (1942)
- BOWLES**, Chester, Hayden's Point, Essex, Conn. (1946)
- BOWLEY**, Arthur Lyon, Marley Hill, Haslemere, Surrey, England. (1932) B. 1869; M.A., 1893, Sc.D., 1913, Cambridge, England; D.Sc., Manchester; D.Litt., 1944, Oxford. Fields 3, 5, 1c. Pub. Elements of statistics (P. S. King; later Staples Press, London; 1901, 6th ed., 1946); Mathematical groundwork of economics (Clarendon Press, Oxford, 1924); Wages and income in United Kingdom (Cambridge Univ. Press, 1937). Dir. Int. W.W., British W.W.
- BOWMAN**, Arthur Chesley, Texas Mil. Inst., San Antonio, Tex. (1945)
- BOWMAN**, Dean O., 3736 Valley Dr., Alexandria, Va. (1938) Dept. of State, Japan-Korea Br., Occupied Areas Econ. Affairs, For. Trade Sec., chief, govt. serv.; b. 1909; B.S., 1933, M.S., 1934, Purdue; Ph.D., 1942, Michigan. Fields 12b, 10, 16. Doc. dis. Public control of labor relations (Macmillan, 1942).
- BOWMAN**, James D., Jr., Box 247, Millersburg, Pa. (1948)
- BOWMAN**, Jean Claire, 640 Mason St., San Francisco 2, Calif. (1946) Calif. State Dept. of Pub. Health, anal., govt. serv., res.; b. 1916; 1933-34, Denver; 1934-35, Texas Col. of Mines and Metal; A.B., 1937, C.P.H., 1938, California. Fields 17a, 3a, 11a.
- BOWMAN**, Mary Jean, Univ. of California, Dept. of Econ., Berkeley 4, Calif. (1934) Univ. of California, visiting lecturer, teach.; b. 1908; B.A., 1930, Vassar; M.A., 1932, Ph.D., 1938, Radcliffe. Fields 1a, 6, 16. Doc. dis. Economic aspects of life histories of reformatory women. Pub. Economic analysis and public policy (co-author) (Prentice-Hall, 1943); "Graphical analysis of personal income distribution in U.S.," A.E.R., 1945. Res. Income distribution and economic opportunity. Dir. Who Knows—and What.
- BOWMAN**, Raymond Tomlinson, 5109 Township Line Rd., Drexel Hill, Pa. (1929) Univ. of Pennsylvania, Dept. of Econ., head, asso. prof., teach., res.; b. 1902; B.S. in Econ., 1925, Ph.D., 1933, Pennsylvania. Fields 1a, 5, 3c. Doc. dis. Statistical study of profits (Univ. of Pennsylvania Press, 1934). Dir. Dir. of Schol.
- BOWMAN**, Ward S., Jr., 1409 E. 54th Pl., Chicago 15, Ill. (1937)
- BOYD**, Ralph L., Univ. of Illinois, 414 Kinley Hall, Urbana, Ill. (1946)
- BOYD**, Robert Kenneth, Pacific Union Col., Angwin, Calif. (1942) Pacific Union Col., dept. head, asso. prof., teach.; b. 1909; B.A., 1930, Emmanuel Missionary Col.; M.A., 1938, Michigan State Col.; summer, 1941, Northwestern; 1947-48, Stanford. Fields 11, 8ab, 3a.
- BRADBURY**, Robert Wesley, 326 Madeira Ave., Coral Gables 34, Fla. (1947) Pan American Airways, special exec. rep., bus.; b. 1905; A.B., 1926, Albion Col.; A.M., 1927, Ph.D., 1936, Michigan. Fields 10, 13b, 7. Doc. dis. Monetary and banking history of Mexico. Pub. Water-borne commerce of New Orleans (Louisiana State Univ. Press, 1937).
- BRADEN**, Samuel Edward, Indiana Univ.,

- Dept. of Econ., Bloomington, Ind. (1938) Indiana Univ., asso. prof. of econ., teach., res.; b. 1914; A.B., 1932, Oklahoma; M.A., 1935, Ph.D., 1941, Wisconsin. Fields 10, 7, 1a. Doc. dis. International trade under managed paper standards. Pub. Economics: principles and problems (Moffat and others) (Crowell, 4th ed., 1947); Economic problems of war (Steiner and others) (Wiley, 1942); Economic problems of national defense (joint author) (Indiana Univ., School of Bus., 1941). Res. Sterling area. Dir. W.W. in Amer. Educa.
- BRADFORD, Ernest Smith**, 50 Argyle Ave., New Rochelle, N.Y. (1943) Manhattan Col., prof., teach., res., edit.; b. 1877; B.Litt., 1897, Wisconsin; Ph.D., 1911, Wharton, Pennsylvania. Fields 11ab, 3, 12. Doc. dis. Commission government in American cities (Macmillan, 1911). Pub. Economic factors in shoe marketing (Bur. of Bus. Res., City Col., 1931); Economic factors affecting shoe and leather marketing (1936); Marketing research (McGraw-Hill, 1948). Res. Special economic and industrial maps; economic charts. Dir. W.W. in Amer., in Com. and Ind., in East.
- BRADFORD, Frederick Alden**, Lehigh Univ., Col. of Bus. Admin., Bethlehem, Pa. (1923) Lehigh Univ., Dept. of Fin., head, prof. of econ.; b. 1897; 1915-17, Case School of Ap. Sci.; A.B., 1921, A.M., 1923, Ph.D., 1926, Michigan. Fields 7, 10, 8a. Doc. dis. Recent banking developments in City of Cleveland. Pub. Money and banking (Longmans, Green, 1941); "Some aspects of stable money question," Q.J.E., Aug., 1929; "Social aspects of commercial banking theory," A.E.R., June, 1933. Res. Revision of Money and Banking. Dir. W.W. in Amer., Who Knows and What.
- *BRADFORD, Gordon**, 174 Hicks St., Brooklyn 2, N.Y. (1948)
- BRADFORD, William Castle**, Northwestern Univ., School of Com., Evanston, Ill. (1947) Northwestern Univ., asst. prof., teach., res.; b. 1910; B.S., 1942, M.A., 1944, Syracuse; A.M., 1946, Ph.D., 1947, Harvard. Fields 12, 7, 6. Doc. dis. Studies in money velocity. Res. Government policy toward small business.
- BRADLEY, Joseph F.**, Pennsylvania State Col., Econ. Dept., State College, Pa. (1941)
- BRADSHAW, Frederic H.**, 403 N. Grove Ave., Oak Park, Ill. (1946)
- BRADY, Robert A.**, Univ. of California, Dept. of Econ., Berkeley 4, Calif. (1945)
- BRAINARD, Harry Gray**, 629 Cherry Lane, East Lansing, Mich. (1935) Michigan State Col., asso. prof., teach., res.; b. 1907; B.S., 1930, M.S., 1931, North Carolina; Ph.D., 1936, Illinois. Fields 10, 16, 1b. Doc. dis. National Labor Board, 1933-34. Pub. "Price control in cotton textile industry," Southern Econ. Jour., Oct., 1945; "Japan's economy," Mich. Acad. of Sci., 1948. Res. International trade.
- BRAINERD, C(arol) P(axson)**, R.D. 2, West Chester, Pa. (1936)
- BRAND, Charles John**, 834 Investment Bldg., Washington 5, D.C. (1914) Econ. consult., res.; b. 1879; B.A., 1902, Minnesota. Fields 15abcd, 12, 4ac. Pub. What economic system for America? (Judd & Detweiler, Washington, D.C., 1945); Fertilizers and agriculture: phosphate resources of U.S. (Joint Com. Hearings, 75th Cong., 3rd ses., 1939); Price balance between agriculture and industry (Acad. of Polit. Sci., 1925). Res. Historical, agronomic and statistical data for general work on fertilizer industry. Dir. W.W. in Amer., in Com. and Ind., Dir. of Schol., Int. W.W.
- BRAND, Michael**, 500 Riverside Dr., New York 27, N.Y. (1943) New York Univ., instr., teach., res.; b. 1915; B.A., 1941, Univ. of Washington; M.A., 1943, Univ. of Colorado; 1944-48, Columbia. Fields 1ab, 6, 16. Res. Regulation of industrial location.
- BRAND, Paul J.**, 5515 8th St., N.W., Washington 11, D.C. (1947) Int. Monetary Fund, econ., res.; b. 1907; B.S., 1941, 1941-42, New York; 1942, 1947-48, George Washington School of Law. Fields 10, 7, 8b.
- BRANDENBURG, Samuel Jacob**, Clark Univ., Worcester, Mass. (1912)
- BRANDIS, Roland Buford**, P.O. Box 655, Emory University, Ga. (1940) Emory Univ., asso. prof., teach., res., bus.; b. 1917; B.A., 1937, Richmond; M.P.A. 1941, Harvard; M.A., 1939, Ph.D., 1943, Duke. Fields 11b, 10, 2b. Doc. dis. British war economy: the first two years. Pub. "Statecraft by gaslight," Emory Univ. Quar., Mar., 1948; "British prices and wage rates: 1939-41," Q.J.E., Aug., 1943; "British overseas trade and foreign exchange," Polit. Sci. Quar., June, 1943. Res. Industrial development by community corporations.
- BRANDIS, Royall**, Nat. Cotton Coun., 1406 G St., N.W., Washington 5, D.C. (1947) Nat. Cotton Coun. of Amer., for. trade econ., res.; B.A., 1940, Richmond; M.A., 1947, Duke. Fields 10, 12b, 9.
- BRANDT, Karl**, Food Res. Inst., Stanford University, Calif. (1944)
- BRANN, William Paul**, Univ. of Arkansas, Bur. of Res., Fayetteville, Ark. (1944) Univ. of Arkansas, asso. prof. of econ., res.; b. 1916; B.A., 1938, Arkansas State; 1940-41, Tulane; M.A., 1942, Ph.D., 1946, Virginia. Fields 1, 14, 15. Doc. dis. Agricultural-industrial relations: from economic theory to policy. Pub. Industrial development in an agricultural state (Univ. of Arkansas, Jan. 15, 1947); "Agricultural-industrial planning in Arkansas," Southwestern Soc. Sci. Quar., June, 1946; "Scientific research in southern universities and colleges," Ark. Acad. of Sci., 1947.
- BRANNON, Gerard Marion**, Notre Dame Univ., Econ. Dept., Notre Dame, Ind. (1944) Notre Dame Univ., instr., teach.; b. 1922; A.B., 1943, M.A., 1944, Georgetown; M.P.A., 1946, 1946-48, Harvard. Fields 6, 1c, 3b. Res. Allowance for uncertainty of national income estimate in formulating fiscal policy (doc. dis.)
- BRATT, Elmer Clark**, Lehigh Univ., Bethlehem, Pa. (1928) Lehigh Univ., prof. of econ., teach., res.; b. 1901; A.B., 1925, A.M., 1926, Nebraska; 1926-27, California; Ph.D., 1935, Wisconsin. Fields 6, 3c, 5. Doc. dis. Forecasting of long-time trends applied to steel production. Pub. Business cycles and forecasting (Richard D. Irwin, 3rd ed., 1948); "Regional concentration resulting from the war," Survey of Cur. Bus., Mar., 1945; "How to avoid deep depressions," Com. and Fin. Chron., Dec. 4, 1947. Res. Expenditure streams in an analysis of business-cycle forecasting; production loss resulting from bombing in World War II. Dir. W.W. in Amer., in Com. and Ind., Who Knows and What.
- BRATTER, Herbert M.**, 3000 39th St., N.W., Washington 16, D.C. (1935) Writer, econ. res. consult., edit., res.; b. 1900; 1917-19, City of New York; 1919-21, Columbia. Fields 7, 10, 9. Pub. Japanese banking (U.S. Dept. of Com., 1931); Silver market dictionary (Commodity Exch., 1933); "The silver episode," J.P.E., 1938. Dir. W.W. in Com. and Ind., in East, Who Knows and What.
- *BRAULT, Florent**, St. Henry's Seminary, 5901 W. Main St., Belleville, Ill. (1946)
- BRAUN, Kurt**, 722 Jackson Pl., Washington 6, D.C. (1944) Brookings Inst., memb. of staff, res.; b. 1897; 1916-20, Univ. of Berlin; J.S.D., 1922, Univ. of Breslau. Fields 16, 17bc, 4a. Doc. dis. Concentration of employers' and employees' organizations (Julius Springer, 1922). Pub. Settlement of industrial disputes (Blakiston, 1944); Union-management co-operation: experience in clothing industry (1947). Right to organize and its limits (1948) (Brookings). Res. Rights and duties of organized labor in U.S. and European countries. Dir. W.W. in Amer.
- BRAUNTHAL, Alfred**, 48-02 43rd St., Woodside, N.Y. (1939) United Hatters, Cap and Millinery Workers Int. Union, res. dir.; b. 1897; Ph.D., 1920, Univ. of Vienna. Fields 16, 17bc, 4ab. Doc. dis. The problem of force in ethics. Pub. Die Wirtschaft der Gegenwart und ihre Gesetze (Laub, Berlin, 1930); "Wage policy and full employment," in Planning and paying for full employment (edit. by A. P. Lerner and F. D. Graham) (Princeton Univ. Press, 1946); "New economic policy in Belgium," Int. Labour Rev., June, 1936. Dir. W.W. in Labor.

BRAY, Charles P., First Nat. Bank Bldg., Oshkosh, Wis. (1945)

BRAY, Warren C., Washington and Jefferson Col., Washington, Pa. (1948) Washington and Jefferson Col., asst. prof. of econ., teach.; b. 1915; B.S., 1938, Univ. of Massachusetts; M.A., 1943, Columbia; 1944-47, New York. Fields 1a, 8a, 11c.

BRAY, William Harry, 200 Rhode Island Ave., N.E., Washington, D.C. (1940) State Dept., adviser on European recovery programs and related foreign economic policy, govt. serv.; b. 1913; A.B., 1938, A.M., 1939, Oberlin. Fields 10, 2b, 13.

BRAZER, Harvey Elliot, Lehigh Univ., Col. of Bus. Admin., Bethlehem, Pa. (1947) Lehigh Univ., Col. of Bus. Admin., instr., teach.; b. 1922; B.C., 1943, McGill; A.M., 1947, 1947-48, Columbia. Fields 9, 1ab, 10. Res. Recent Canadian experience in Dominion-Provincial financial relations (doc. dis.).

*BREAK, George Farrington, Univ. of California, 119 South Hall, Berkeley 4, Calif. (1946)

BRECHT, Robert Paul, Univ. of Pennsylvania, Wharton School, Philadelphia 4, Pa. (1941) Univ. of Pennsylvania, Wharton School, prof., dept. head, teach.; b. 1899; B.S. in Econ., 1922, A.M., 1925, Ph.D., 1931, Pennsylvania. Fields 11a, 12a, 16. Doc. dis. Effect of size and nature of business upon functionalization and co-ordination in organizing for production planning and control. Pub. Management of an enterprise (joint author) (Prentice-Hall, 1937); "Collective bargaining and re-employment of veterans," Annals of Amer. Acad. of Polit. and Soc. Sci., May, 1943; Complex organization in industry (Glenn L. Martin Co., Mar., 1947). Res. Economics of financial incentives. Dir. W.W. Among Asso. Exec., in Labor Arbitration.

BRECKENRIDGE, Walter Nelson, Box 143, Waterville, Me. (1929) Colby Col., prof. of econ., dept. head, teach.; b. 1903; B.S., 1926, M.A., 1928, Tufts, 1938-39 Columbia. Fields 12b, 13b, 1b. Dir. Dir. of Schol., W.W. in New England.

BREDO, William, C-4 College Rd., Durham, N.H. (1947)

BREIER, Frederick Arthur, 520 Geary St., San Francisco 2, Calif. (1942) Univ. of San Francisco, asst. prof., teach., res.; b. 1919; Certif., 1938, Konsularakademie, Vienna; A.B., 1940, Rochester. Fields 2a, 7, 10.

BRETHAUP, Le Roy, Oregon State Col., Corvallis, Ore. (1944) Oregon State Col., prof., teach., res., edit.; 1910, Oregon State Col. Fields 15, 2b, 17d. Pub. Agricultural situation and outlook (Oregon State Col. Ext. Serv., No. 4, 1947); "Adequacy and utility of agricultural statistics in extension agricultural economics work," Proceed., Western Farm Econ. Asso., June, 1947. Res. Statistical studies on twelve groups of crop and animal products produced for market in Oregon. Dir. W.W. in Ore.

BREMER, C(ornelius) Daniel, Willard Hotel Bldg., 1414 F St., N.W., Washington, D.C. (1930) Int. trade econ., res.; b. 1896; Ph.D., 1935, Columbia. Fields 10, 15bc, 7. Doc. dis. American bank failures (Columbia Univ. Press, 1935). Pub. "Banking concentration," in Big business, its growth and its place (1937), "Profitability of banking," in How profitable is big business? (1937) (Twentieth Century Fund). Res. Economic conditions, 1947, Netherlands Indies.

*BRENSIKE, Valentine John, 126 N. 5th St., Madison, Wis. (1948)

BRETHOUWER, Melvin William, 4117 Davis Pl., N.W., Washington 7, D.C. (1936) Bur. of Int. Rev. Bus. and Ind. Res. Div., govt. serv., res.; b. 1904; B.A., 1927, Carroll Col.; M.A., 1928, Wisconsin; 1930-34, Chicago. Fields 9, 8a, 14a.

BREWER, John Claude, Kent State Univ., Kent, Ohio. (1946)

BREWSTER, Maurice R., 332 Garmon Rd., N.W., Atlanta, Ga. (1939)

BREYER, Ralph Frederick, Univ. of Pennsylvania, Wharton School, Philadelphia 4, Pa. (1921) Univ. of Pennsylvania, Wharton School, prof. of mktg., teach., res., edit.; b. 1897; B.S. in Econ., 1920, M.A., 1923, Ph.D., 1925, Pennsylvania. Fields

11, 3c, 2a. Doc. dis. Agents and contracts in export trade. Pub. Commodity marketing (McGraw-Hill, 1931); Consumer plant and equipment (with R. Cox) (Retail Credit Inst. of Amer., 1944); Bulk and package handling costs (Amer. Mgt. Asso., 1944). Res. Marketing channels.

BRICAULT, George A., 419 Main Ave., Clarks Summit, Pa. (1946)

BRICKNER, Arthur, 410 Central Park W., New York, N.Y. (1943)

BRIDGES, Olin Ross, Southeastern State Col., Durant, Okla. (1947)

BRIDGMAN, Howard Allen, 6 Lawler Rd., Medford 55, Mass. (1945) Tufts Col., asst. prof., teach.; b. 1911; A.B., 1933, Amherst; A.M., 1941, Harvard. Fields 16, 11a, 12a. Res. Supply of labor.

BRIEFS, Goetz Antony, 4 Kenilworth Dr., Chevy Chase 15, Md. (1938) Georgetown Univ., Grad. School, prof. of econ., teach., res.; b. 1889; Dr. rer. polit., 1912, Univ. of Freiburg; Dr. jur. h. c., 1947, St. Mary's Col. Fields 16, 4a, 1b. Doc. dis. Das Spirituskartell (Braun Pub. House, Karlsruhe, Baden, 1912). Pub. Untersuchungen zur Klassischen Nationalökonomie (Gustav Fischer, Jena, 1915); The proletariat: a challenge to Western civilization (McGraw-Hill, 1937); Sociologie des Industriellen Betriebs (Enke Stuttgart, 1934). Res. Theory of unionism. Dir. W.W. in Amer., Dir. of Schol., Int. W.W.

BRIGGS, Herbert Spencer, 871 Seventh Ave., New York 19, N.Y. (1946) Nat. Ind. Conf. Bd., sr. res. anal., res.; b. 1910; A.B., 1929, City of New York. Fields 16, 11a, 12. Pub. Wage payment systems (Nat. Ind. Conf. Bd., 1948). Res. Clerical salary administration.

BRIGGS, Leland Lawrence, 13 Bay View St., Burlington, Vt. (1925) Univ. of Vermont, asso. prof. of econ., teach., edit.; b. 1893; A.B., 1923, A.M., 1924, South Dakota; M.B.A., 1927, Northwestern; 1930-31, Harvard. Fields 11c, 8a. Pub. "Dividends from stock premiums," Jour. of Accountancy, May, 1932; "Distribution of interest between life tenant and remainderman," Amer. Accountant, May, 1933; "Stockholders' liability for unlawful dividends," Temple Law Quar., Jan., 1934. Res. The law of dividends. Dir. W.W. in East, in New England.

BRIGGS, Royal Jay, Central Missouri State Col., Warrensburg, Mo. (1935)

BRIGGS, Winfield Scott, 93 Upper College Rd., Kingston, R.I. (1943) Rhode Island State Col., Acctg. and Bus. Law Depts., head, prof., teach., res., govt. serv.; b. 1893; B.S., 1923, Mississippi A. and M.; M.S., 1929, Ph.D., 1945, Columbia. Fields 11c, 1a, 9. Doc. dis. Devaluation and appreciation of fixed corporate plant from the standpoint of accounting (Edwards Bros., 1945).

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BRILL, Josiah E., 500 Builders Exch., Minneapolis 2, Minn. (1946)

*BRINEGAR, George K., International House, 1414 E. 59th St., Chicago 37, Ill. (1947)

BRISSENDEN, Paul Frederick, Columbia Univ., New York 27, N.Y. (1921) Columbia Univ., prof.; Millinery Stabilization Com., Inc., vice-chmn.; teach., res., govt. serv.; b. 1885; A.B.,

- 1908, Denver; A.M., 1912, California; Ph.D., 1917, Columbia. Fields 16, 14a, 17bc. Doc. dis. History of S.W.W. (Columbia Univ. Studies, 1919; 2nd ed., 1920). Pub. "Genesis and import of collective bargaining provisions of Recovery Act." in Economic essays in honor of Wesley C. Mitchell (Columbia Univ. Press, 1935); Earnings of factory workers, 1899-1927: an analysis of payroll statistics (U.S. Govt. Prtg. Office, 1929); Labor turnover in industry (with E. Frankel) (Macmillan, 1922). Res. Economic condition of millinery manufacturing industry; labor-management co-operation in millinery manufacturing. Dir. W.W. in Amer., in Com. and Ind., in East, in Labor, in New York, Dir. of Schol.
- BROCK, Leslie V.**, 1810 Dearborn, Caldwell, Idaho. (1936)
- BROCKIE, Melvin David**, 959 Gayley Ave., Los Angeles 24, Calif. (1947) California Inst. of Tech., instr. of econ., res., teach.; b. 1921; A.B., 1942, M.A., 1944, Ph.D., 1948, California at Los Angeles. Fields 6, 1a, 7. Doc. dis. The rally, crisis, and depression, 1935-38. Res. Business cycles.
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- *BRONFENBRENNER, Jean** (Mrs. Martin), R. 1, Middleton, Wis. (1943) Cowles Com. for Econ. Res., res. asst., res.; b. 1919; 1935-37, Arizona; A.B., 1939, A.M., 1948, Chicago; A.M., 1945, Univ. of Colorado. Fields 3b, 1c. Pub. "Incentive tax proposal for alleviating housing shortage," Tax Rev. Mar., 1948. Res. Interrelations of least squares and simultaneous equation methods of statistical estimation in econometric models (doc. dis.).
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- BROOKS, Benjamin Franklin**, 107 E. Raymond Ave., Alexandria, Va. (1939) B. 1900; A.B., 1923, Col. of Puget Sound; A.M., 1932, Univ. of Washington; Ph.D., 1939, Chicago. Fields 9, 7, 14. Doc. dis. History of monetary theory in U.S. before 1860. Dir. Dir. of Schol.
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- BROSSARD, Edgar Bernard**, 1629 Columbia Rd., N.W., Washington 9, D.C. (1937) U.S. Tariff Com., memb., dept. head, govt. serv., res., edit., bus.; b. 1889; B.S., 1911, Utah State Agric. Col.; M.S., 1917, Ph.D., 1920, Minnesota; 1917-18, Cornell Univ. Fields 10, 4, 14. Doc. dis. Some types of irrigation farming (Utah Agric. Exp. Sta., 1920). Pub. Costs of production of sugar beets in U.S. (Tariff Com., 1924-26). Dir. W.W. in Amer., in Com. and Ind., in Int. World, in Nation's Capital, in Western Hemisphere, in Govt., Int. W.W., Who's Important in Govt.
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- BROWN, Cecil Kenneth**, Davidson Col., Davidson, N.C. (1928) Davidson Col., dean of faculty, prof. of econ., teach.; b. 1900; A.B., 1921, Davidson Col.; M.A., 1923, Ph.D., 1927, North Carolina. Fields 1a, 13b, 7. Doc. dis. A state movement in railroad development (Univ. of North Carolina Press, 1928). Pub. State highway system of North Carolina (Univ. of North Carolina Press, 1931); Introduction to economics (American Book, 1941). Dir. W.W. in Amer., Lead. in Educa.
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- BROWN, Douglas Stewart**, Pennsylvania State Col., Dept. of Econ., State College, Pa. (1944) Pennsylvania State Col., asst. prof. of econ., teach., res.; b. 1914; 1935-38, Wisconsin; A.B. (Ed.), 1939, A.M., 1940-42, summer, 1944, Michigan. Fields 16, 1a, 2a. Pub. "Iberville canal project: its relation to Anglo-French commercial rivalry in Mississippi Valley," Miss. Valley Hist. Rev., Mar., 1946. Res. Economic attitudes of supervisory personnel in Pennsylvania; telling stockholders about industrial relations policies. Dir. Who Knows—and What.
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- BROWN, Earl H.**, 402 Harvard Hall, 1650 Harvard St., Washington, D.C. (1943)
- BROWN, Edw. T.**, Wolcott, N.Y. (1944)
- *BROWN, Elizabeth Henshaw Gaspar** (Mrs. Douglas S.), Pennsylvania State Col., State College, Pa. (1947) Pennsylvania State Col., instr. in econ., teach., res.; b. 1913; A.B., 1935, Rockford Col.; 1935-38, Wisconsin; summer, 1942, Louisiana. Fields 7, 1a, 2a. Pub. "Memorandum on Mississippi woman's law of 1839," Mich. Law Rev., June, 1944; "Index to names of persons," in Transactions of Supreme Court of Territory of Michigan, 1825-36 (Univ. of Michigan Press, 1940); "Constitutionality of dividend tax," Wis. Law Rev., June, 1936. Res. Law books used in Territory of Michigan; impact of depression on state banks.
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- BROWN, Emily Clark**, Vassar Col., Poughkeepsie, N.Y. (1927) Vassar Col., prof., teach., res.; b. 1895; B.A., 1917, Carleton Col.; M.A., 1923, Ph.D., 1927, Chicago. Fields 16, 4a, 17b. Doc. dis. Book and job printing in Chicago (Univ. of Chicago Press, 1930). Pub. "Employer unit in National Labor Relations Board decisions," J.P.E., June, 1942; "Book and job printing," in How collective bargaining works (Twentieth Century Fund, 1943); "Free collective bargaining or

government intervention," *Harvard Bus. Rev.*, Winter, 1947. Res. Study of Wagner and Taft-Hartley Acts.

BROWN, George Hay, Univ. of Chicago, School of Bus., Chicago 37, Ill. (1940) Univ. of Chicago, prof., teach., res.; b. 1910; A.B., 1929, Oberlin; M.B.A., 1931, Harvard; Ph.D., 1945, Chicago. Fields 11b, 1a, 12a. Doc. dis. International economic position of New Zealand (*Jour. of Bus. monograph*, Apr., 1946). Pub. "Note on federal taxation of chain stores," *Jour. of Bus.*, 1940; "Comparison of sampling methods," *Jour. of Mktg.*, 1947. Res. Relationship of preference measurement in buying behavior. Dir. W.W. in Com. and Ind., Who Knows—and What.

BROWN, George Thomas, Garrett Park, Md. (1935)

BROWN, Harry Gunnison, 403 S. Garth Ave., Columbia, Mo. (1909) Univ. of Missouri, prof.; b. 1880; A.B., 1904, L.H.D. (Hon.), 1936, Williams Col.; 1905-06, Ohio State; Ph.D., 1909, Yale. Fields 9, 1a, 6. Doc. dis. Some aspects of railroad combination. Pub. Economics of taxation (Holt, 1924; Lucas Bros., 1938); Basic principles of economics (Lucas Bros., 1942, 2nd ed., 1947); "Incidence of general output or general sales tax," *J.P.E.*, Apr., June, 1939. Dir. W.W. in Amer.

BROWN, Horace Brightberry, Jr., School of Com. and Bus. Admin., University, Miss. (1944) Univ. of Mississippi, School of Com. and Bus. Admin., dean, prof. of econ., teach.; b. 1908; 1927-28, Asbury Col.; B.S.C., 1931, Mississippi; M.B.A., 1932, Ph.D., 1941, Northwestern. Fields 11ab, 12, 8a. Doc. dis. Development and present status of co-operative marketing of cotton in state of Mississippi (abstract, Northwestern Univ., Aug., 1941). Dir. W.W. in Amer., in Amer. Educa., in Com. and Ind., Who Knows—and What, Int. W.W.

***BROWN, Hugh R.**, 91-27 Hollis Ct. Blvd., Queens Village 8, N.Y. (1947)

BROWN, James, Douglas, Dean's House, Princeton, N.J. (1925)

BROWN, Joe E., Univ. of Texas, Austin, Tex. (1942)

BROWN, Lathrop, Saddle Rock Ranch, Big Sur, Calif. (1921)

BROWN, Leo Cyril, 3674 Lindell Blvd., St. Louis 8, Mo. (1946) St. Louis Univ., asso. prof., teach., res.; b. 1900; A.M., 1927, S.T.L., 1934, St. Louis; A.M., 1938, Ph.D., 1940, Harvard. Fields 16, 12, 1. Doc. dis. Union policies in leather industry, with special reference to Massachusetts. Pub. Union policies in leather industry (1947); Impact of new labor law on union-management relations (Inst. of Soc. Order, 1948). Res. Experience of union participation in industrial management. Dir. Catholic W.W.

BROWN, Lewis H., 22 E. 40th St., New York 16, N.Y. (1943) Johns-Manville Corp., chmn. of bd. and chief exec. officer; b. 1894; A.B., 1915, Iowa; LL.D., 1942, Temple; 1943, Brown, 1945, Lake Forest Col. Fields 11a, 6. Pub. Report on Germany (Farrar Straus & Co., 1947). Dir. W.W. in Amer.

BROWN, Lyndon Osmond, Knox Col., Galesburg, Ill. (1928)

BROWN, (Mrs.) Mary Virginia, 235 E. 50th St., New York, N.Y. (1944) Inst. of Life Ins., econ. asso., res., edit.; b. 1914; B.A., 1936, Pennsylvania Col. for Women; M.A., 1938, Pennsylvania State Col. Fields 6, 1a, 3a.

***BROWN, Otis D.**, 322B N. Palm Dr., Beverly Hills, Calif. (1948)

BROWN, Pembroke Holcomb, Univ. of Illinois, 109 Commerce Bldg., Urbana, Ill. (1917)

BROWN, Philip Meader, 3 Page St., Brunswick, Me. (1925) Bowdoin Col., asso. prof., teach.; b. 1901; A.B., 1922, Brown; A.M., 1925, Stanford; Ph.D., 1931, Harvard. Fields 9, 11c, 7. Doc. dis. Bankers' acceptances and discount market. Dir. Dir. of Schol.

BROWN, Philip Stoddard, R.F.D. 2, Box 560, Alexandria, Va. (1945) Self-employed; b. 1909; B.A., 1930, M.B.A., 1933, D.C.S., 1937, Harvard. Fields 10, 7, 5. Doc. dis. Economics of world gold production. Pub. "Anomalous course of South

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***BROWN, Richard L.**, 622 N. Henry St., Madison, Wis. (1948)

BROWN, Samuel Lovitt, 2707 Eighth St. S., Arlington, Va. (1948) Georgetown Univ., instr., teach., res.; b. 1915; Ph.B., 1936, Rockhurst Col.; M.A., 1939, 1939-41, 1946-48, Georgetown. Fields 1a, 14b, 6. Res. Relation between residential building cycle and cycle in commercial building; elasticities of demand and supply of housing (doc. dis.).

BROWN, Theodore H., Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston 63, Mass. (1921)

BROWN, Weir Messick, 3513 Quebec St., N.W., Washington 16, D.C. (1946) U.S. Treas. Dept., principal econ. govt. serv., res.; b. 1914; 1931-32, 1933-34, Shurtleff Col.; A.B., 1936, Oberlin; A.M., 1938, Ph.D., 1941, Brown. Fields 1a, 6, 10. Doc. dis. Examination of theoretical foundations of doctrine of economic stagnation. Pub. "Labor-saving" and "capital-saving" innovations," *Southern Econ. Jour.*, Oct., 1946; "Some effects of minimum wage upon economy as a whole," *A.E.R.*, Mar., 1940. Res. Inventory studies.

BROWN, William Adams, Jr., 1254 31st St., N.W., Washington 7, D.C. (1926) Brookings Inst., Int. Studies Group, sr. staff, res.; b. 1894; A.B., 1917, Yale; 1926-27, London School of Econ.; Ph.D., 1929, Columbia. Fields 10, 7. Doc. dis. England and new gold standard (P. S. King, London, 1929). Pub. International gold standard reinterpreted, 1914-34 (Nat. Bur. of Econ. Res., 1940); Future economic policy of U.S. (World Peace Found., 1942). Res. I.T.O. Dir. W.W. in Amer.

BROWN, William Francis, Northwestern Univ., School of Com., Evanston, Ill. (1945) Northwestern Univ., asso. prof., teach., res.; b. 1911; A.B., 1933, M.A., 1934, California at Los Angeles; Ph.D., 1941, Northwestern. Fields 11ab, 1a, 12. Doc. dis. Department store market analysis. Pub. "Guild pricing in service trades," *Q.J.E.*, Feb., 1947; "Federal Trade Commission and false advertising," *Jour. of Mktg.*, July, Oct., 1947. Res. Pricing and market research.

BROWNE, Arthur Earl, 17 Tauxemont, R.F.D. 1, Alexandria, Va. (1937)

BROWNE, (Mrs.) Martha Steffy, 215 E. 79th St., New York 21, N.Y. (1941) Brooklyn Col., asst. prof.; Hunter Col., lecturer; teach., res.; b. 1898; 1919, Freiburg; Ph.D., 1921, Vienna; 1941-42, Columbia. Fields 15bcd, 10, 1a. Doc. dis. Die Anweisungen theorie des Geldes (1921). Pub. Theorie der Staatlichen Wirtschaftspolitik (Wiener Rechts und Staatswissenschaftliche Studien, 1929); Die Doppelnote (Schriften des Vereins fuer Sozialpolitik, 1923); "Probleme des Lohnvergleiches," *Archiv fuer Sozialwissenschaft*, 1931 (all published under Martha Stephanie Braun). Res. Economic geography of Europe.

BROWNE, Warren, 1725 Orrington Ave., Evanston, Ill. (1947) Northwestern Univ., asst. prof. of fin., teach., res., bus.; b. 1890; 1912-15, Missouri; A.B., M.B.A., 1944, Chicago. Fields 8, 6, 3a.

BROWNSON, Howard G., 896 28th St., Des Moines, Iowa. (1948)

BROZEN, Yale, Northwestern Univ., Econ. Dept., Evanston, Ill. (1941) Northwestern Univ., prof., teach., res., edit.; b. 1917; 1936, Kansas City Jr. Col.; Ph.D., 1941, Chicago. Fields 1ac, 7, 6. Doc. dis. Some economic aspects of technological change. Pub. Workbook for economics (1948), Textbook for economics (1948) (Wm. C. Brown Co., Dubuque, Iowa); Optimum capital use and technological change (Univ. of Chicago Lib., 1943). Res. Effect of time on position of demand curves facing individual firms.

BRUHN, Mark Carl, 123 N. Washington Ave., Waukesha, Wis. (1947) Carroll Col., asst. prof., teach.; b. 1912; B.Ed., 1934, Eau Claire State Teachers Col.; M.A., 1943, Minnesota; 1945, Univ. of Edinburgh. Fields 10, 1, 7.

BRUNNER, Edmund de S., Jr., 1226 S. George Mason Dr., Arlington, Va. (1946) Dept. of Nat.

Defence, air intelligence specialist, govt. serv., res.; b. 1913; A.B., 1935, Dartmouth; M.A., 1939, 1939-40, Columbia. Fields 14a, 15d, 12a. Res. Study of U.S. aircraft industry.

BRUNNER, Theresa Mary, 1601 V St., N.W., Washington 9, D.C. (1947).

BRUNO, Vincent J., 4747 E. Washington St., Indianapolis 1, Ind. (1943) Indiana Univ., Ext. Center, Dept. of Econ., lecturer, teach.; b. 1914; 1935-36, Univ. of Neuchâtel, Switzerland; B.S., 1939, Columbia; A.M., 1941, Fletcher Grad. School of Law and Diplomacy. Fields 7, 11a, 1a.

BRUSH, Waite Smith, Consolidated Edison Co. of N.Y., 4 Irving Pl., Room 1673S, New York 3, N.Y. (1940) Consolidated Edison Co. of N.Y., Fin. and Bus. Anal. Bur., mgr., res., bus.; b. 1899; E.E. 1921, Rensselaer Poly. Inst.; M.B.A., 1935, New York. Fields 13a, 3c, 8a. Pub. "Forecasting revival phase of kilowatt-hour consumption," Dec. 16, 1933, "What would inflation do to 1934 kilowatt-hours?" Feb. 3, 1934, Electrical World. Res. Electric energy as comprehensive measure of local, regional, and national economic activities.

BRY, Gerhard, 457 Richmond Ave., Maplewood, N.J. (1946) Consult. econ., res., bus.; b. 1911; 1930-31, Univ. of Heidelberg; 1931-33, Univ. of Berlin; 1939-41, Columbia. Fields 14a, 3c, 16. Res. German wages under varying business conditions, 1871-1945 (doc. dis.); economic analysis in legal practice.

BRYAN, Leslie Aulls, 1016 W. John St., Champaign, Ill. (1929) Univ. of Illinois, Inst. of Aeronautics, dir., prof. of mgt., res., teach.; B.S., 1923, M.S., 1924, LL.B., 1939, Syracuse; Ph.D., 1930, American. Fields 13b, 11a, 15d. Doc. dis. Incidence of freight rates. Pub. Industrial traffic management (McGraw-Hill, 1929); Principles of water transportation (Ronald Press, 1939); Municipal airport management (Univ. of Illinois, 1947).

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BRYANT, Drayton S., 12548 Collins St., North Hollywood, Calif. (1948)

BRYANT, Lyle C., 1602 N. McKinley Rd., Arlington, Va. (1935) U.S. Dept. of Com., Ext. Serv., res. officer, govt. serv.; b. 1906; A.B., 1928, Beloit; M.A., 1931, Chicago. Fields 15c, 11a, 13a. Pub. "Organization of occupancy as an approach to real estate management," Jour. of Land and Pub. Util. Econ., Nov., 1941, Aug., 1942.

BRYCE, Robert B., 9 Belvedere Crescent, Ottawa, Ont., Canada. (1934)

BRYDE, Thomas James, 119-04 95th Ave., Richmond Hill 19, New York, N.Y. (1948) Fordham Univ., School of Bus., instr., teach.; b. 1918; B.S. 1941, M.Litt., 1946, Pittsburgh. Fields 1b, 7, 2a.

BRYSKI, Anthony Joseph, 16 Fairview Ave., Quakertown, Pa. (1947) Lehigh Univ., instr., teach.; b. 1917; B.S. in Ed., 1940, Temple; M.A., 1948, New York. Fields 15d, 2, 13a.

**BRYSON, Prima Lee (Mrs. Winfred O., Jr.), 2416 Montebello Ter., Baltimore 14, Md. (1948) Univ. of Pennsylvania, student; B.S., 1945, Morgan State Col.; 1945-48, Pennsylvania. Fields 11ab, 1, 10.

BRYSON, Winfred Octavus, Jr., 2416 Montebello Ter., Baltimore 14, Md. (1947) Morgan State Col., Dept. of Econ., head, prof. of econ., teach.; b. 1915; A.B., 1936, Morehouse Col.; M.A., 1937, Atlanta; Ph.D., 1947, Pennsylvania. Fields 8a, 11, 1a. Doc. dis. Analysis of operating experience of Negro legal reserve life insurance companies. Pub. "War industry employment for Negroes in Maryland," Phylon, 1943.

BRZYSKI, Stanley Blase, 3946 Priscilla St., Philadelphia 40, Pa. (1947)

BUCHAN, Leslie James, Tulane Univ., New Orleans, La. (1940)

BUCHANAN, Daniel Houston, P.O. Box 424, Chapel Hill, N.C. (1929) Univ. of North Carolina, prof. of econ., teach.; b. 1883; A.B., 1911, Colorado Col.; A.M., 1912, Ph.D., 1931, Harvard; D.Sc. (Econ.), 1928, Keiojuku Univ. (Tokyo). Fields 2, 10, 1. Doc. dis. Development of capitalistic enterprise in India (Macmillan, 1934). Pub. "Rural economy of Japan," Q.J.E., Aug., 1923; "Historical approach to rent and price theory," Economica, June, 1929; "Use of economic history in solution of current economic problems," Southern Econ. Jour., Apr., 1947. Res. Economic developments in Far Eastern countries.

BUCHANAN, Frank, 1121 Washington St., McKeesport, Pa. (1935) Member of Congress; b. 1902; B.S., 1925, Pittsburgh; 1934, Columbia. Dir. W.W. in Amer.

BUCHANAN, James McGill, Univ. of Tennessee, Dept. of Econ., Knoxville, Tenn. (1942) Univ. of Tennessee, asso. prof., teach., res.; b. 1919; B.S., 1940, Middle Tennessee State; M.A., 1941, Tennessee; 1946-48, Chicago. Fields 9, 1ab, 12b. Res. Fiscal equity in a federal state (doc. dis.).

BUCHANAN, Mark T., State Col. of Washington, Col. of Agric., Pullman, Wash. (1946)

BUCHANAN, Norman Sharpe, 49 W. 49th St., New York 20, N.Y. (1930) Rockefeller Found., Soc. Sci. Div., asso. dir.; b. 1905; B.A., 1927, Toronto; M.A., 1929, Ph.D., 1931, Cornell Univ. Fields 1, 10, 6. Doc. dis. Electric Bond and Share Company: a case study of a public utility holding company. Pub. Economics of corporate enterprise (1940), International investment and domestic welfare (1945) (Holt); Rebuilding world economy (with F. A. Lutz) (Twentieth Century Fund, 1947). Res. Industrial development of low income areas. Dir. W.W. in Amer., Dir. of Schol.

BUCK, Norman Sydney, Yale Sta., New Haven, Conn. (1920)

BUCKBERG, Albert, 2670 Parker St., Berkeley 4, Calif. (1947) Univ. of California, student; b. 1922; B.A., 1947, George Washington; 1947-48, California. Fields 16, 12a, 7.

BUCKINGHAM, Fisher A., Memphis State Col., Dept. of Bus. Admin., Memphis, Tenn. (1947)

BUCKLEY, Louis F., 170 E. 191st St., Euclid 19, Ohio. (1939) Soc. Sec. Admin., asso. reg. rep.; Western Reserve Univ., lecturer; govt. serv., teach.; b. 1906; A.B., 1928, M.A., 1930, Notre Dame; 1933, Illinois; 1937-38, Wisconsin; 1939-40, Catholic. Fields 16, 1, 9. Pub. "Effect of war upon labor in U.S.," Soc. Sci., July, 1942; "Ethical aspects of social insurance," Rev. of Soc. Econ., June, 1948.

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BUDD, Thomas Allibone, Univ. of Pennsylvania, Logan Hall, Philadelphia, Pa. (1925)

BUDENZ, Louis Francis, 26 Manhattan Ave., Crestwood, Tuckahoe 7, N.Y. (1946)

BUDIN, Morris, Utica Col., Utica, N.Y. (1948) Utica Col., instr., teach., res.; b. 1920; B.A., 1941, M.P.A., 1947, New York; 1945-47, New School for Soc. Res. Fields 1ab, 16, 4.

BUECHEL, Frederick Anthony, 4106 Tennyson, Houston 5, Tex. (1921) Houston Chamber of Com., dir., res.; A.B., 1909, A.M., 1912, Ph.D., 1922, Wisconsin; summers, 1911, 1920, Chicago, 1926, Columbia. Fields 15, 3, 2. Doc. dis. Relation of rents to

land value in theory and in practice (A. and M. Col. of Texas Exp. Sta., 1923). Pub. Commerce of agriculture (Wiley, 1926); Farm cash income in Texas by districts (Univ. of Texas, Bur. of Bus. Res., 1937). Res. Economy of Houston area with special reference to petro-chemical and allied industries. Dir. W.W. in Tex.

BUECHEL, Henry Theodore, Univ. of Washington, Dept. of Econ., Seattle 5, Wash. (1942) Univ. of Washington, asst. prof., teach.; b. 1907; B.A., 1929, M.A., 1937, Washington State Col.; 1938-41, Wisconsin. Fields 16, 1a, 9. Pub. Absenteeism in Seattle war plants (Seattle Civilian War Com., 1943). Res. The Australian way in labor relations (doc. dis.).

BUEHLER, Alfred Grether, Univ. of Pennsylvania, Wharton School, Philadelphia 4, Pa. (1925) Univ. of Pennsylvania, teach., res.; b. 1900; A.B., 1922, Heidelberg Col. A.M., 1923, Ph.D., 1930, Yale. Field 9. Doc. dis. General sales taxation (Bus. Bourse, 1932). Pub. Public finance (3rd ed., 1948). Undistributed profits tax (1937) (McGraw-Hill); "Taxation of small business," A.E.R., May, 1946. Res. Tax theory. Dir. Dir. of Schol.

BUFF, Joseph A., Siena Col., Loudonville, N.Y. (1947)

BUKOVSKY, Alexis Paul, 5315 Colorado Ave., N.W., Washington 11, D.C. (1942) Int. Com. Com., transport econ., govt. serv., res.; b. 1910; B.S. in E. (Civil), 1930, 1931-34, Michigan; M.S., 1931, Yale. Fields 13b, 12b, 9. Pub. Use and cost of railway fuel and problems in fuel statistics (July, 1944). Postwar capital expenditures of railroads (with J. T. Warren) (Mar., 1947) (Int. Com. Com., Bur. of Statistics). Res. Economic comparisons of steam, diesel, and electric locomotives.

BULLARD, Charles W., 56 Mulberry St., Athens, Ohio. (1948)

BULLOCK, Paul, Jr., 1623A Fremont Ave., South Pasadena, Calif. (1942)

BULLOCK, Roy Johnson, 1909 Rhode St., S., Arlington, Va. (1930)

BULLOCK, Theodore T., 2420 R., Lincoln, Neb. (1913)

BUND, Henry, 292 Madison Ave., New York 17, N.Y. (1946) Res. Inst. of Amer., Div. of Mgt. Methods, dir., edit., res.; b. 1912; Diplomkaufmann, 1935, Absolutum Juris, 1936, Univ. of Vienna; Ph.D. (Econ.), 1937, Univ. of Econ., Vienna. Fields 11, 12, 14a. Doc. dis. Investment trusts (Vienna, 1938). Pub. "Profit boom—fact or fancy?" Com. Mag., Apr., 1948; "What's wrong with sales?" Printers' Ink, May 16, 1947. Res. Stabilization in industry.

BURBANK, Harold Hitchings, Harvard Univ., Littauer M-8, Cambridge 38, Mass. (1909) Harvard Univ., dept. head, teach., res.; b. 1887; A.B., 1909, A.M., 1910, Dartmouth; Ph.D., 1915, Harvard. Fields 9, 2a. Res. Government finance. Dir. W.W. in Amer., Lead. in Educa., Int. W.W.

***BURCH, Daniel Windsor**, 547 39th St., Apt. 1, Oakland 9, Calif. (1947) Student; b. 1914; B.A., 1947, Univ. of Washington; M.A., 1948, California. Fields 9, 7, 1.

BURDICK, E(dward) Douglass, Univ. of Pennsylvania, Wharton School, Philadelphia 4, Pa. (1933) Univ. of Pennsylvania, asso. prof., teach., res.; b. 1905; B.A., 1926, M.A., 1928, Wesleyan Univ.; 1928-29, Univ. of Bordeaux; Ph.D., 1935, Pennsylvania. Fields 3a, 17a, 6. Doc. dis. Corporate interest payments, 1921-32 (privately printed, 1935). Res. Alcoholism: treatment of patients and biochemistry of alcoholism.

BURDICK, Raymond Terry, 311 Plum St., Fort Collins, Colo. (1923) Colorado A. and M. Col., prof. of econ., dept. head, res., teach.; b. 1889; B.S., 1912, Cornell Univ.; M.S., 1922, Colorado State Agric. Col.; Ph.D., 1946, Chicago. Fields 15b, 1a, 11b. Doc. dis. New technique of field crop labor analysis (Colo. Agric. Exp. Sta., Tech. Bul. 36, June, 1947). Pub. Economics of sugar beet production in Colorado (Bul. 453, June, 1939), North Park cattle production (Bul. 435, July, 1937), Possibilities for cattle income (Bul. 460, July, 1940) (Colo. Agric. Exp. Sta.). Res. Economics of cattle

and sheep ranching; farm business analysis; livestock marketing.

BURGER, Alvin Arthur, 605 Broad St., Newark 2, N.J. (1942) N.J. State Chamber of Com., res. dir.; Nat. Asso. of State Chambers of Com., res. dir.; res.; b. 1898; attended Washington Univ., New York Univ. Fields 9, 17b, 12b. Res. Impact of federal spending policies upon national economy. Dir. W.W. in East, Lead. in Educa.

BURGESS, Eugene Willard, 5063 Nicollet Ave., Minneapolis 9, Minn. (1928) General Mills, Inc., vice-pres., bus.; b. 1898; B.A., 1921, M.A., 1924, Lehigh; Ph.D., 1927, Université de Lyon. Fields 16, 12b, 11a. Doc. dis. La "Nonpartisan League"—Une expérience Américaine de socialisme d'état agraire (Marcel Giard, Paris, 1928). Dir. Dir. of Schol.

BURGESS, Kenneth Farwell, 11 S. La Salle St., Chicago 3, Ill. (1922) Sidley, Austin, Burgess & Harper, partner; b. 1887; B.A., 1910, B.L., 1912, Wisconsin. Field 13. Pub. Railroads: rates, service, management (with H. B. Vanderblue) (Macmillan, 1923); "Federal regulation of railway management and finance," Harvard Law Rev., 1924; "Conflict in legislation respecting railroad rates," Harvard Bus. Rev., July, Oct., 1929. Dir. W.W. in Amer., in Railroad, in Chicago and Vicinity, in Central States.

BURGESS, Robert Wilbur, Western Electric Co., 195 Broadway, New York 7, N.Y. (1924) Western Elec. Co., Inc., chief econ., bus., res.; b. 1887; A.B., 1908, Brown; B.A., 1910, Oxford Univ.; Ph.D., 1914, Cornell Univ. Fields 11ac, 6, 3ac. Doc. dis. Uniform motion of sphere through viscous liquid (Amer. Jour. of Math., Jan., 1916). Pub. "Research for general administration," in Scientific management in American industry (Taylor Soc., 1929); Cost behavior and price policy (collaborated as member of committee responsible) (Nat. Bur. of Econ. Res., 1943); American individual enterprise system (collaborator) (Nat. Asso. of Mfgs., 1946). Res. Employment, productivity, and commodity prices. Dir. W.W. in Amer., Dir. of Schol.

BURGESS, W. Randolph, 55 Wall St., New York, N.Y. (1924)

BURHANS, Nathaniel C., 1806 Orchard St., Alexandria, Va. (1939)

BURK, Marguerite C., 1725 17th St., N.W., Washington 9, D.C. (1944) U.S. Dept. of Agric., Bur. of Agric. Econ., Food Consumption Sec., chief, res., govt. serv.; b. 1915; 1932-33, Stanford; 1934, Ottawa Univ. (Kan.); A.B., 1937, M.A., 1938, Kansas; 1938-39, American; 1940, Wisconsin; Ph.D., 1948, Minnesota. Fields 17d, 3c, 15b. Doc. dis. Analysis of wartime changes in consumption. Pub. Nutritive value of per capita food supply, 1909-45 (co-author) (U.S. Dept. of Agric., Misc. Pub. No. 616, Jan., 1947); National food situation (editor) (Bur. Agric. Econ., 1944-48). Res. Food consumption data, 1909-48; improvements in food consumption data.

BURK, Monroe, 1912 3rd St. N.E., Washington 2, D.C. (1942) Amer. Univ., School of Soc. Sci., instr., teach., res.; b. 1918; B.S.S., 1938, City of New York; M.B.A., 1940, Harvard; 1946-48, American. Fields 1ac, 16, 9. Res. Distributive share of labor in light of modern analysis (doc. dis.).

BURKE, Joseph William, P.O. Box 218, Colorado Springs, Colo. (1939) B. 1889; 1912-14, Wisconsin; B.A., 1927, LL.B., 1930, Minnesota. Fields 16, 10, 7. Res. Domestic prices and wages since 1914; trade agreements and the tariff.

BURKHEAD, Jesse V., Syracuse Univ., Dept. of Econ., Syracuse, N.Y. (1939) Syracuse Univ., asst. prof. of econ., teach.; b. 1916; B.A., 1938, Carleton; M.A., 1939, Ph.D., 1942, Wisconsin; M.P.A., 1942, Harvard. Fields 9, 13ab, 5. Doc. dis. Fiscal control of inflation. Pub. "Budget classification and fiscal planning," Pub. Admin. Rev., Autumn, 1947; "Full employment and interest-free borrowing," Southern Econ. Jour., July, 1947. Res. Fiscal policy.

BURLEY, Orin Everett, Univ. of Pennsylvania, Wharton School, Philadelphia 4, Pa. (1945) Univ. of Pennsylvania, Wharton School, prof., teach.;

- b. 1905; B.S., 1928, Oklahoma A. and M.; M.A., 1930, Ph.D., 1937, Ohio State. Fields 11b, 7, 17d. Doc. dis. Consumer's co-operative as distributive agency. Pub. Introduction to business management (1941), Introduction to business management—problems book (1941) (Ronald Press); Consumers' co-operative as distributive agency (McGraw-Hill, 1939). Res. Costs of operation survey, drug industry.
- BURNETT, (Mrs.) Esther P.**, 3226 Valley Dr., Alexandria, Va. (1941)
- BURNETT, Judson Orville**, Univ. of Nebraska, Col. of Bus. Admin., Lincoln, Neb. (1941) Univ. of Nebraska, Col. of Bus. Admin., asst. prof. of acctg., teach., res.; b. 1895; B.D., 1915, Des Moines Col.; B.A., 1921, M.A., 1930, Iowa; 1930-35, Minnesota. Fields 11c, 5, 14a. Pub. Operating results of manufacturing plants in Minnesota, 1926-30 (with G. Filippetti and W. C. Dachtler) (1932), Certain data and tables in Taxation in Minnesota (R. G. Blakey and associates) (1932) (Univ. of Minnesota Press). Res. Cost accounting.
- BURNS, Arthur Edward**, 6521 32nd St., N.W., Washington, D.C. (1937)
- BURNS, Arthur F.**, 370 Central Park W., New York 25, N.Y. (1930) Nat. Bur. of Econ. Res., dir. of res.; Columbia Univ., prof. of econ.; b. 1904; B.A., M.A., 1925, Ph.D., 1934, Columbia. Fields 6, 1a, 3c. Doc. dis. Production trends in U.S. since 1870 (Nat. Bur. of Econ. Res., 1934). Pub. "Long cycles in residential construction," in Economic essays in honor of Wesley Clair Mitchell (Columbia Univ. Press, 1935); Measuring business cycles (with W. C. Mitchell) (1946), Economic research and Keynesian thinking of our times (1946) (Nat. Bur. of Econ. Res.). Res. Cyclical behavior of investment. Dir. W.W. in Amer., Dir. of Schol.
- BURNS, Arthur Robert**, Crickets, Campbell Hall, N.Y. (1938)
- BURNS, Donald Francis**, 653 E. 14th St., New York 9, N.Y. (1947) Marshall Granger & Co., staff acct., bus.; b. 1914; B.S., 1941, New York; 1943-44, Georgetown; M.B.A., 1946, California. Field 11c.
- *BURNS, Eveline Mabel (Mrs. Arthur R.)**, Crickets, Campbell Hall, N.Y. (1925)
- BURNS, Mary Ray (Mrs. Wendell T.)**, Excelsior, Minn. (1944)
- BURNS, Robert Kenneth**, 5533 S. Woodlawn Ave., Chicago 37, Ill. (1937) Univ. of Chicago, Ind. Rela. Center, exec. officer, asso. prof. of ind. rela., teach., res.; b. 1909; A.B., 1933, Univ. of Washington; Ph.D., 1938, Chicago. Fields 16, 11a, 17abc. Doc. dis. Collective bargaining in daily newspaper industry (Twentieth Century Fund, 1942). Pub. "Unionization of white collar worker," Amer. Mgt. Asso., 1947; "Employment opportunities of today," in Encyclopaedia Britannica, 1941; "Collective bargaining in printing," in Yearbook of Amer. Labor (Phil. Lib., 1948). Res. Causes, coverage, operation, and consequences of unionization of white collar workers, determinants of constructive union-management relations. Dir. W.W. in Amer.
- BURNSIDE, Malcolm**, 302 Ave. C, Brooklyn 18, N.Y. (1941) Amer. Tel. and Tel. Co., staff asst., bus.; b. 1918; B.S. in S.S., 1938, City of New York; M.A., 1940, Columbia. Fields 8ab, 13ac, 14ac.
- BUROS, Allan Thomas**, 14 Cabot St., Winchester, Mass. (1947) Scudder, Stevens & Clark, security anal., res.; b. 1910; 1929-30, Superior State Col.; B.S., 1931, Columbia. Fields 8b, 13, 6.
- BURR, Susan Sophia**, Bd. of Gov. of Fed. Res. System, Capital Mkts. Sec., Washington 25, D.C. (1947)
- BURRILL, Cecil Lloyd**, 15 W. 51st St., New York 19, N.Y. (1940) Standard Oil Co. (N.J.), Budget Dept., head, bus.; b. 1906; B.S. in C.E., 1932, Univ. of Washington; M.B.A., 1934, D.C.S., 1938, Harvard. Field 11.
- BURRIS, Edward Caniser**, Oklahoma A. and M. Col., Stillwater, Okla. (1936) Oklahoma A. and M. Col., School of Com., asst. dean, prof. of econ., teach., res.; b. 1906; B.S., 1924, M.S., 1927, Oklahoma A. and M. Col.; summers, 1927, 1928, Chicago; 1931-33, Wisconsin. Fields 16, 8ab, 13a. Res. Historical and statistical analysis of Oklahoma building and loan associations. Dir. W.W. in Amer. Arbitration.
- BURROUGHS, Roy Judson**, U. S. Dept. of Agric., Bur. of Agric. Econ., Washington 25, D.C. (1929) U.S. Dept. of Agric., Bur. of Agric. Econ., Div. of Agric. Fin., Farm Construc. Sec., agric. econ. in charge; U.S.D.A. Grad. School of Agric.; govt. serv., res., teach.; b. 1903; B.S., 1924, Oklahoma A. and M. Col.; A.M., 1930, Ph.D., 1933, Michigan. Fields 15be, 7, 5. Doc. dis. Study of urban real estate mortgage delinquency (Jour. of Land and Pub. Util. Econ., Nov., 1935). Pub. "Toward a farm housing policy," Land Econ., Feb., 1948. Res. Finance, supply, and service for farm construction activity. Dir. Dir. of Amer. Schol.
- BURSIEK, Ralph Carl**, Univ. of Cincinnati, Cincinnati 21, Ohio. (1947) Univ. of Cincinnati, asso. prof., asst. dean, teach.; b. 1906; Com. Eng., 1931, A.M., 1932, 1932-34, Cincinnati. Fields 7, 1a, 11c.
- BURSLE, Norman**, Univ. of Chicago, Law School, Chicago 37, Ill. (1946) Univ. of Chicago, Law School, asst. prof., res., teach.; b. 1904; A.B., 1933, 1933-34, 1937-38, California. Fields 12, 14, 1b. Pub. "Tax subsidies for rental housing" (with W. J. Blum), Univ. of Chicago Law Rev., Winter, 1948. Res. Housing; public utility regulation in Illinois.
- BURSTEIN, Herman**, 12 Stuyvesant Oval, Apt. 12-E, New York 9, N.Y. (1944) S. D. Leidesdorf & Co., econ., statis., bus., res.; b. 1918; 1936-37, Western Reserve Univ.; B.S., 1940, Ohio Univ.; M.A., 1941, Oberlin; Ph.D., 1945, New York. Fields 1ab, 10, 7. Doc. dis. Pan American economic solidarity. Pub. "Our tariff policy in crisis," Feb. 20, 1947, "Postwar prospects in Latin American market," Mar. 13, 1947, Com. and Fin. Chron.
- *BURTLE, James L.**, 4850 Greenwood, Chicago 15, Ill. (1947) Roosevelt Col., instr., teach.; b. 1919; B.A., 1942, 1946-48, Chicago. Fields 1a, 3b, 10.
- BURTT, Everett J., Jr.**, 42 Pond Plain, Westwood, Mass. (1947)
- BUSH, Wilbur Kirkton**, 547 W. Jackson Blvd., Chicago 6, Ill. (1947) C.B.&O. Railroad Co., general tax agent, bus.; b. 1911; B.S.C.I. in Com., 1934, M.B.A., 1937, Northwestern; 1933, Munich and Bonn Univ. Fields 13b, 9, 14c. Pub. "Taxation of trucks and busses in Illinois with special reference to cost of constructing concrete highways" (1939), Assessment of car-line companies (1936) (State of Ill.); "Impact of state and local taxation on Railroads" (Nat. Tax Asso., 1947). Dir. W.W. in Railroadng.
- BUSHEY, J. Hobart**, 695 Park Ave., New York 21, N.Y. (1940) Hunter Col., asso. prof. of math., teach., res.; b. 1903; B.A., 1924, Johns Hopkins; M.A., 1928, Ph.D., 1930, Michigan. Fields 3, 6, 1c.
- BUSSING, Irvin**, 14 Wall St., New York 5, N.Y. (1935) Savings Banks Trust Co., dept. head, res., bus.; b. 1898; A.B., 1923, M.A., 1927, Ph.D., 1935, Columbia. Fields 8ab, 7.
- *BUTLER, Arthur D.**, 843 Williamson, Madison 4, Wis. (1948) Univ. of Wisconsin, grad. asst., teach., res.; b. 1923; B.A., 1944, Manchester Col.; M.A., 1946, Minnesota; 1946-48, Wisconsin. Fields 16, 3a, 7. Res. Labor-management relations in the public service.
- BUTLER, Hugh D.**, 1559 44th St., N.W., Washington 7, D.C. (1946)
- BUTLIN, Sydney James**, Univ. of Sydney, Dept. of Econ., Sydney, Australia. (1945) Univ. of Sydney, prof., dept. head, res., teach.; b. 1910; B.Ec., 1932, Sydney; 1933, Freiburg i.B.; B.A., 1934, M.A., 1939, Cambridge, England. Fields 1ab, 9, 2a. Pub. "Dollar in New South Wales and Tasmania, 1822-42," Historical Studies—Australia and New Zealand, Oct., 1941; "Savings banking in Australia," Jour. of Royal Aust. Hist. Soc., 1946; "Australian Economic Association, 1887-98," Econ. Record, June, 1947. Res. Development of Australian monetary system; economic section, Official History of Australia in War of 1939-45. Dir. W.W. in Australia.
- *BUTT, Louise Eisenlohr (Mrs. S. McC.)**, 1908 Florida Ave., N.W., Washington, D.C. (1941)

BUTT, S. McClellan, 1908 Florida Ave., N.W., Washington, D.C. (1936)

BUTTE, William Edward, 510 Terry St., Longmont, Colo. (1922) Pennsylvania State Col., prof. emeritus of econ.; b. 1888; B.A., 1911, M.A., 1914, Wisconsin; Ph.D., 1931, Yale. Fields 1a, 9, 13a. Doc. dis. Permanent tax on excess profit. Res. Enterprise in relation to time.

BUTTENHEIM, Harold Sinley, 470 Fourth Ave., New York, N.Y. (1933)

BUTTERBAUGH, Grant Illion, 6815 20th Ave., N.E., Seattle 5, Wash. (1943) Univ. of Washington, asso. prof., teach.; b. 1893; A.B., 1916, Wisconsin; M.B.A., 1923, Univ. of Washington; Ph.D., 1942, Chicago. Fields 3ac, 11ac, 6. Doc. dis. Measurement of business activity in Puget Sound area (Univ. of Chicago Press, 1943). Pub. Bibliography of statistical quality control (Univ. of Washington Press, 1946); Indexes of business activity (Pacific Northwest, Puget Sound Area, Inland Empire Area, Lower Columbia Area) (Pacific Northwest Ind., monthly, 1944 on). Res. A county purchasing power index for Washington. Dir. W.W. on Pacific Coast.

BUTTERS, J(ohn) Keith, Harvard Grad. School of Bus. Admin., Soldiers Field, Boston 63, Mass. (1938) Harvard Univ., asst. prof., res., teach.; b. 1915; A.B., 1937, Chicago; A.M., 1939, Ph.D., 1941, Harvard. Fields 9, 8, 6. Doc. dis. Federal taxation of corporate profits. Pub. Effect of federal taxes on growing enterprises (with J. Lintner) (1945). War profits, taxation, and special wartime reserves (1944) (Harvard Bus. School); "Discriminatory effects of annual computation of corporation income tax," Q.J.E., 1939. Res. Effects of federal taxation on business.

BUTTRICK, John Arthur, 2832 Yale Sta., New Haven, Conn. (1946) Yale Univ., student, asst. in instr., res., teach.; b. 1919; B.S., 1941, Haverford; M.A., 1947, 1947-48, Yale. Fields 12b, 5, 1a. Res. Historical analysis of contract labor system at Winchester Repeating Arms Company.

BYE, Carl Rollinson, 139 Niven St., Syracuse 3, N.Y. (1934) Syracuse Univ., Maxwell School of Citizenship and Pub. Affairs, dept. head, prof., teach.; b. 1900; A.B., 1922, A.M., 1924, Syracuse; A.M., 1926, Tufts; 1932-33, London School of Econ. and Polit. Sci.; Ph.D., 1938, Syracuse. Fields 1a, 10, 2a. Doc. dis. Developments and issues in theory of rent (Columbia Univ. Press, 1940). Dir. Dir. of Schol.

BYE, Raymond Taylor, Univ. of Pennsylvania, Philadelphia 4, Pa. (1920) Univ. of Pennsylvania, prof. of econ., teach., res.; b. 1892; A.B., 1914, Swarthmore; A.M., 1915, Harvard; Ph.D., 1918, Pennsylvania. Fields 1a, 4ab. Doc. dis. Capital punishment in U.S. (Friends' Central Bur., Philadelphia, 1919). Pub. Principles of economics: a restatement (1941), Applied economics (with W. W. Hewett) (4th ed., 1947), Getting and earning (1937) (Appleton-Century-Crofts). Res. Social economy and the price system. Dir. W.W. in Amer., in East. Dir. of Schol.

***BYRNE, Elizabeth Emily**, 160-06 33rd Ave., Flushing, N.Y. (1946) Ohio State Univ., asst. and asst. instr., teach., bus.; b. 1925; B.A., 1946, Wellesley; 1946-48, Ohio State. Fields 1ab, 10, 16. Res. Effects of trade association activities on monopolistic competition (master's thesis).

BYRNE, John M., 1000 Phelps Apts., 506 E. Fourth, Cincinnati, Ohio. (1926)

CABE, J. Carl, Jr., Purdue Univ., Recitation Bldg., Lafayette, Ind. (1946) Purdue Univ., instr., teach.; b. 1919; 1938-41, North Texas State Col.; A.B., A.M., Illinois. Fields 16, 1a, 14a. Pub. Foremen's unions: a new development in industrial relations (Univ. of Illinois, Bur. of Econ. and Bus. Res., 1947); Collective bargaining by foremen (Univ. of Illinois, Inst. of Labor and Ind. Rela., 1947).

CABLE, John Ray, Missouri Valley Col., Marshall, Mo. (1922) Missouri Valley Col., pres., dept. head, prof. of econ., teach.; b. 1891; 1909-12, William Jewell Col.; B.A., B.S., 1913, Missouri; M.A., 1917, Chicago; Ph.D., 1923, Columbia. Fields 7, 2, 8. Doc. dis. Bank of State of Missouri (Columbia

Univ. Studies, 1923). Dir. W.W. in Amer., Dir. of Schol.

CADMAN, John William, Jr., 78 Oakgrove Dr., Williamsville, N.Y. (1937) B. 1912; A.B., 1934, Buffalo; A.M., 1937, Ph.D., 1947, Princeton. Fields 8a, 2a, 1b. Doc. dis. Policy of New Jersey with respect to business corporation: 1791-1875.

CADY, Elwyn Loomis, 5100 Woodland Ave., Kansas City 4, Mo. (1931)

CADY, George Johnson, Northwestern Univ., Harris Hall 301, Evanston, Ill. (1927) Northwestern Univ., teach., res.; b. 1899; A.B., 1922, Franklin Col.; M.A., 1926, Ph.D., 1929, Northwestern. Fields 1a, 16, 12a. Doc. dis. American wage theories prior to 1840. Pub. "Early American reaction to theory of Malthus," J.P.E., Oct., 1931; Entrepreneurial costs and price (privately published, 1942); "Chaos of enterprise," Social Frontier, 1937. Res. Theory of individual firm. Dir. Dir. of Schol.; W.W. in Central States.

CAHILL, James M., 6 Garden Rd., Pelham Manor 65, N.Y. (1948) Manhattan Col., asst. prof.; Grand Union Co., res. dir.; Bur. of Labor Statis., econ.; teach., bus., govt. serv.; b. 1909; B.S., 1933, Manhattan Col.; M.A., 1938, 1938-40, Columbia. Fields 1a, 9, 8a.

CAHN, Bertram J., B. Kuppenheimer & Co., Inc., Congress and Franklin Sts., Chicago, Ill. (1935)

CAHN, Frances Triest, 3000 39th St., N.W., Washington, D.C. (1929)

CAHN, Frank B., Logwood Lodge, Greenspring Ave., Pikesville 8, Md. (1943)

***CAIN, Leonard Francis**, 2511 Lee Blvd., Apt. 201, Arlington, Va. (1948)

CAINE, Walter Eugene, Texas Eastern Transmission Corp., Box 1612, Shreveport 94, La. (1941) Texas Eastern Transmission Corp., secy., treas., dept. head, bus., res.; b. 1908; B.S. in Bus., 1930, Buffalo; M.B.A., 1931, Northwestern. Fields 13a, 12, 8ab. Pub. Electric power and government policy (joint author) (Twentieth Century Fund, 1948); Gas facts (joint author) (Amer. Gas Asso., 1947); "Regulation of municipal electric utility rates in Wisconsin," Jour. of Land and Pub. Util. Econ., 1935.

CAIRNS, Andrew, 27 Fort Hunt Rd., Alexandria, Va. (1943) Int. Wheat Coun., secy.; Int. Fed. of Agric. Prod., Washington and Paris, secy.-gen.; b. 1899; B.S.A., 1923, Univ. of Alberta; M.A., 1926, Minnesota. Fields 10, 4a, 15b. Dir. Canadian W.W.

SCALDER, Philip Raymond, 38 Wentworth Rd., Melrose 76, Mass. (1934) Revere Sugar Refinery, accountant, bus.; b. 1890. Dir. W.W. in Mass., in East, in New England, in Com. and Ind.

CALE, Edward Graham, 6615 Fairfax Rd., Bethesda, Md. (1937)

CALHOUN, Charles Eliot, Univ. of Maryland, College Park, Md. (1943) Univ. of Maryland, prof. of fin., teach.; b. 1896; A.B., 1925, M.B.A., 1930, Univ. of Washington; 1942, Chicago; 1943, Columbia. Fields 8ab, 6, 7. Pub. Investment procedure and management (Seattle Mimeographing Co., 1930).

CALHOUN, Charles Patton, 15 E. 26th St., New York 10, N.Y. (1927) Ronald Press Co., vice-pres., bus.; B.C.S., 1912, New York.

CALHOUN, Wilbur Pere, Univ. of Cincinnati, Cincinnati 21, Ohio. (1935) Univ. of Cincinnati, prof. of fin., fin. consult.; teach.; b. 1889; A.B., 1913, Hiram Col.; A.M., 1914, Michigan. Fields 7, 8ab, 1a. Dir. W.W. in Amer.

CALKINS, Francis Joseph, 1831 E. Lafayette Pl., Milwaukee 2, Wis. (1934) Marquette Univ., assoc. prof. of fin.; Northwestern Univ., lecturer in fin.; teach.; b. 1910; A.B., 1932, A.M., 1933, Loyola; Ph.D., 1947, Northwestern. Fields 8ab, 7, 6. Doc. dis. Work of the Securities and Exchange Commission on corporate reorganization plans under chapter X of the Bankruptcy Act. Pub. "Feasibility in plans of corporate reorganization under chapter X," Harvard Law Rev., Apr., 1948; "Corporate reorganization under chapter X—a post-mortem," Jour. of Fin., June, 1948; "College curriculum in business," Diary of Alpha



Kappa Psi, May, 1948. Res. Price-earnings ratios in the petroleum industry.

*CALKINS, Ralph N., Route 2, Box 209, Albuquerque, N.M. (1948)

CALKINS, Robert D., 445 Riverside Dr., New York 27, N.Y. (1930) Gen. Educa. Bd., dir.; B.S., 1925, LL.B., 1942, William and Mary; M.A., 1929, Ph.D., 1933, Stanford. Fields 11a, 12a, 14a. Doc. dis. Price leadership among major wheat futures markets (Wheat Studies, Nov., 1933). Dir. W.W. in Amer.

CALLANDER, Chester L., 904 Erie Ave., Takoma Park, Md. (1946)

CALMUS, Hannah S. (Mrs. A.), 225 Sterling Pl., Brooklyn 17, N.Y. (1942)

CALSOYAS, Chris D., 173 Edwards St., New Haven, Conn. (1948)

CAMERON, Roy Ernest, San Diego State Col., San Diego 5, Calif. (1930)

CAMITTA, Rosalie, 25 Central Pk. W., New York, N.Y. (1947)

CAMMACK, T. Emerson, 200 Massachusetts Ave., N.W., Apt. 107, Washington 1, D.C. (1942)

CAMP, Chester Bennett, 238 W. 44th St., Indianapolis 8, Ind. (1930) Consult., teach., bus., govt. serv., res.; b. 1899; B.S., 1923, M.S., 1924, 1931-32, Illinois. Fields 8ab, 12b, 15c. Pub. Financial aspects of airport leases (Indianapolis Ch. of Com., 1944); "Housing survey—Terre Haute, Indiana, and Brazil, Indiana," Hoosier Banker, Jan., 1947; Inventory of Indiana transportation facilities (Indiana Econ. Coun., Nov., 1946). Res. Real labor costs and costs of apprentice training in construction industry; construction problems and business conditions.

CAMPBELL, A. Stuart, TVA, Knoxville, Tenn. (1943)

CAMPBELL, Claude A., 514 Water St., Pullman, Wash. (1936) Washington State Col., assoc. prof. of econ., teach.; b. 1903; B.S., 1927, Middle Tennessee State Teachers Col.; M.A., 1928, George Peabody Col. for Teachers; Ph.D., 1932, Vanderbilt; 1930, Chicago. Fields 7, 9, 1a. Res. Branch banking in eastern Washington.

CAMPBELL, Douglas, British Embassy, Washington 8, D.C. (1944)

CAMPBELL, F. Newell, 4113 W St., N.W., Washington 7, D.C. (1938) Treas. Dept., Div. of Tax Res., asst. dir. govt. serv.; b. 1902; B.S., 1925, M.S., 1926, Illinois; 1928, Chicago; 1928-29, Columbia. Fields 9, 8b, 1.

CAMPBELL, George Clyde, Troy Rd., R.F.D. 1, Boonton, N.J. (1945) Metropolitan Life Ins. Co., asst. actuary, bus.; b. 1904; A.B., 1926, Indiana; 1926-27, Minnesota; M.S., 1930, Iowa. Fields 8c, 11a, 3a. Pub. "Study of the variance of the observed death rate when the exposure is estimated from a sample," Transactions of the Actuarial Soc., 1945; "Problems with sampling procedures for reserve valuations," Jour. of Amer. Statist. Asso., 1948.

CAMPBELL, Kenneth H., 3406 Garfield St., N.W., Washington 7, D.C. (1944) Ch. of Com. of U.S., mgr. of for. com. dept.; b. 1903; B.S., 1927, New York. Fields 10, 11a.

CAMPBELL, Rita Ricardo (Mrs. W. Glenn), 1716 Cambridge St., Cambridge, Mass. (1945) Tufts Col., asst. prof.; b. 1920; B.S., 1941, Simmons; M.A., 1945, Ph.D., 1946, Radcliffe. Fields 16, 1, 17b. Doc. dis. Annual wage and employment guarantee plans. Pub. "Annual wage guarantee plans," A.E.R., Dec., 1945; "Review of recent analyses of annual wage guarantees," Q.J.E., Aug., 1948. Res. Principles of arbitration in wage cases in electrical and printing industries.

CAMPBELL, Robert Argyll, Vanderbilt Univ., Nashville, Tenn. (1938)

CAMPOS SALAS, Octavio, Zapotecas 24, Colonia Obrera, Mexico, D.F. (1947) Dirección de Impuestos Interiores Secretaría de Hacienda y Crédito Público Estados Unidos Mexicanas, asst. dir. of control and statis.; Univ. Nac. Aut. de México, instr. in taxation; govt. serv., teach.; b. 1916; Lic. en Economía, 1944, Univ. Nac. Aut. de Méx.; 1944-47, Chicago. Fields 9, 1, 7. Pub. "La

reserva monetaria de México," Revista de Economía, 1944.

*CANNELL, W. F., Univ. Col., Leicester, England. (1948)

CANNON, Arthur Monroe, 2928 9th Ave., W., Seattle 99, Wash. (1947) Univ. of Washington, assoc. prof., teach.; b. 1911; B.S., 1933, M.A., 1948, Oregon. Fields 11ac, 7, 9. Pub. "Danger signals to accountants in net-lease financing," Jour. of Accountancy, Apr., 1948; "C.P.A. requirements of the various states," Beta Alpha Psi Rev., June, 1948; "Tax effect on life insurance," Life Asso. News, Mar., 1939. Res. Branch banking in Pacific Northwest; interlocking directorates in Seattle.

CANON, Helen, Cornell Univ., Col. of Home Econ., Ithaca, N.Y. (1940) Cornell Univ., prof. of econ. of household and household mgt., dept. head, teach., res.; b. 1888; A.B., 1911, Colorado Col.; B.S., 1915, Columbia; M.S., 1928, Ph.D., 1930, Cornell Univ. Fields 17d, 5, 6. Doc. dis. The family finances of 195 farm families in Tompkins County, New York, 1927-28 (Cornell Univ. Agric. Exp. Sta., May, 1931). Pub. Index numbers of the cost of goods and services bought by farm families in New York, 1920 to 1935 (with M. Rollins) (Jan., 1937), Sizes of purchasing centers of New York farm families (Nov., 1928) (Cornell Univ. Agric. Exp. Sta.). Res. Measure of household work load; component activities common to certain major household tasks.

CANOYER, Helen G., Univ. of Minnesota, School of Bus. Admin., Minneapolis 14, Minn. (1941) Univ. of Minnesota, assoc. prof. of econ. and mktg., teach., res.; Ph.D., 1940, Minnesota. Fields 4c, 11b, 5. Doc. dis. National brand advertising and monopolistic competition (Jour. of Mktg., Oct., 1942). Pub. Income and consumption (Holt, 1938); "Selecting a store location," Bur. of For. and Dom. Com., Econ. Series 56, Aug., 1946; "Government and consumer in wartime," in Consumer problems in wartime (1944).

CAPLAN, Benjamin, 2831 28th St., N.W., Washington 8, D.C. (1935)

CAPP, Seth Bunker, c/o Delivery Section, Box 2041, Middle City Sta., P.O., Philadelphia 3, Pa. (1912)

*CAPRON, William M., 25 Avon St., Cambridge, Mass. (1946)

*CARBERT, Leslie Ellerton, Columbia Univ., 1217 John Jay Hall, New York 27, N.Y. (1946) Columbia Univ., student; b. 1922; B.A., 1946, British Columbia; M.A., 1947, Columbia. Fields 1a, 7, 10. Res. Theory of consumption and expenditure (doc. dis.).

*CAREY, John, 380 Beacon St., Boston 16, Mass. (1947) Harvard Law School, student; b. 1924; B.A., 1947, Yale; 1947-48, Harvard. Fields 1a, 10, 9.

CAREY, Robert Dennis, 3025 Sutherland Ave., Indianapolis 5, Ind. (1942) Carey & Sons Dairy, Inc., bus.; b. 1917; B.S., 1940, Butler; M.A., 1944, Indiana. Fields 2a, 14a, 6.

CAREY, Robert Lincoln, 15 Claremont Ave., New York 27, N.Y. (1931) Columbia Univ., asso. prof. of econ., asst. to dean, adviser to debate com., teach.; b. 1898; B.S., 1920, A.B., 1921, Univ. of Washington; M.A., 1923, California; 1924, Harvard; Ph.D., 1929, Columbia. Fields 1ab, 9, 16. Doc. dis. Daniel Webster as economist (Columbia Univ. Studies, 1929). Pub. Main currents in modern economic life (contrib.) (Harcourt, Brace, 1940).

CARLIN, Edward A., 703 Cherry Lane, East Lansing, Mich. (1948)

CARLIP, Alfred B., Michigan State Col., Dept. of Econ., East Lansing, Mich. (1948)

CARLOCK, John Edwin, 332 W. Horrtter St., Philadelphia 19, Pa. (1940) Temple Univ., instr., assoc. dir. of Cedarbrook unit., teach.; b. 1910; B.C.S., 1934, M.B.A., 1942, New York. Fields 11c, 8b, 3c. Pub. Statistical abstracts for Pennsylvania cities (Bur. of Bus. Res., Pennsylvania State Col., June, 1942). Res. Secular trend standards for standard costs (doc. dis.).

CARLSON, Knute E., 5241 42nd St., N.W., Washington, D.C. (1932)

CARLSON, Reynold Erland, Vanderbilt Univ.,

- Dept. of Econ., Nashville 4, Tenn. (1940) Vanderbilt Univ., assoc. prof.; United Nations, econ. consult.; teach., res.; b. 1912; B.S., 1936, M.A., 1937, Northwestern; Ph.D., 1946, Harvard. Fields 9, 2b, 4a. Doc. dis. British block grants and central-local finance (Johns Hopkins Univ. Press, 1948). Pub. History land use in Harvard Forest (Harvard Univ., 1941); "Interstate barrier effects of use tax," Law and Contemp. Prob., Spring, 1941; "Homestead tax exemption," Jour. Land and Pub. Util. Econ., Nov., 1947.
- *CARLSON, Robert Enoch, Univ. of Minnesota, School of Bus. Admn., Minneapolis 14, Minn. (1948) Univ. of Minnesota, teach. asst.; b. 1923; B.S., 1947, Minnesota. Fields 2a, 1b, 10.
- CARLSON, Valdemar, 137 W. Davis St., Yellow Springs, Ohio. (1936) Antioch Col., teach.; b. 1899; A.B., 1924, Kansas; Ph.D., 1931, Harvard. Fields 7, 5, 10. Doc. dis. Associations and combinations in the American paper industry. Pub. An introduction to modern economics (Blakiston, 1946); "Heterodoxy in monopolistic competition," Jour. of Soc. Phil., July, 1937; "How mature is the American economy," Antioch Rev., Fall, 1946. Res. Money. Dir. W.W. in Middle West.
- CARLTON, Frank Tracy, Case Inst. of Tech., Cleveland 6, Ohio. (1906) Case Inst. of Tech., prof. emeritus, econ., teach., res.; b. 1873; B.S., 1895, M.E., 1899, Case; M.A., 1905, Ph.D., 1906, Wisconsin; LL.D., 1932, Albion; summers, 1902, 1903, Chicago. Fields 16, 4a, 6. Doc. dis. Economic influence upon educational progress in the U.S., 1820-90 (Univ. of Wis., 1908). Pub. Education and industrial evolution (Macmillan, 1908); Labor problems (Heath, 1933); Organized labor in American history (Appleton, 1920). Res. Technological progress upon economic and social conditions. Dir. W.W. in Amer., Dir. of Schol.
- CARLTON, Martha Porter (Mrs. George), Apt. 25B, Court K, Stadium Ter., Champaign, Ill. (1944)
- CARMICHAEL, Fitzhugh Lee, 211 15th St., Denver 2, Colo. (1940) Univ. of Denver, prof. of statis., Bur. of Bus. and Soc. Res., dir.; res., teach.; b. 1893; A.B., 1913, Alabama; M.A., 1918, Princeton; M.S. in Com., 1925, Denver. Fields 3a, 15e, 17ab. Pub. "Housing in Denver," 1941, "Financing city and county government in Denver" (with A. S. Marshall), 1946, "Commercial and industrial properties and sites in Denver" (with A. S. Marshall), 1947, Univ. of Denver Reports. Res. Prospective enrollment trends in the elementary and secondary schools of Denver. Dir. W.W. in Amer., Lead. in Educa.
- CARNES, Hugh Byron, Tulane Univ., Col. of Com., New Orleans 15, La. (1948) Tulane Univ., prof. of for. com., teach., res.; b. 1904; A.B., 1926, M.A., 1938, Michigan; Doctur en Letras, 1942, Univ. Nac. de México. Fields 10, 2b, 15d. Doc. dis. Facundo y su obra (Imprenta Cervantes, México, D.F., 1941). Pub. Manual de correspondencia comercial Espanola (Holt, 1930). Res. Argentina's bilateral compensatory trade agreements.
- CARNEY, James Joseph, Jr., Box 578, Miami (Univ. Br.), Coral Gables 34, Fla. (1941) Univ. of Miami, prof., dept. head., teach., res.; b. 1909; A.B., 1931, A.M., 1933, Harvard; Ph.D., 1938, Duke. Fields 7, 5, 6. Doc. dis. Spanish colonial policy (Hisp. Amer. Hist. Rev.; Univ. of Miami Hisp. Rev.). Pub. "100% reserves," Tarheel Banker, 1941. Dir. W.W. in Amer. Educa.
- CAROTHERS, Neil, 807 W. Market St., Bethlehem, Pa. (1927) Lehigh Univ.; B.A., 1906, Arkansas; Dipl. in Econ., 1907, Oxford; Ph.D., 1916, Princeton. Fields 7, 1, 8. Doc. dis. Fractional money. Pub. Fractional money (Wiley, 1930); Experimenting with our money (Kinchart, 1935); Silver in America (Assoc. of Res. City Bankers, 1936). Dir. W.W. in Amer., Dir. of Schol., Lead in Educa., Int. W.W.
- CARPENTER, Cecil C., 253 Shady Lane, Lexington 1, Ky. (1929) Univ. of Kentucky, Col. of Com., dean; b. 1904; B.S., 1926, Kentucky; M.S., 1927, Ph.D., 1932, Illinois. Fields 7, 1, 11c. Doc. dis. Monetary theory in England during the bank restriction period 1797-1821. Pub. State bank failures in Kentucky (Univ. of Kentucky, Bur. of Bus. Res., 1938); "Resumption of 1821," So. Econ. Jour., 1938.
- CARPENTER, William Morgan, Edison Electric Inst., 420 Lexington Ave., New York, N.Y. (1926)
- CARR, Harold Noflet, c/o Wisconsin Central Airlines, Municipal Airport, Madison, Wis. (1944) Wisconsin Central Airlines, Inc., exec. vice-pres., bus.; b. 1921; B.S., 1943, Texas A. and M. Col.; 1946, American. Fields 13b, 11ab, 8ab.
- CARR, Hobart C., Fed. Res. Bank, Dom. Res. Div., New York, N.Y. (1939)
- CARROLL, Clifford Andrew, Gonzaga Univ., Spokane 11, Wash. (1944) Gonzaga Univ., School of Bus. and Econ., dean, teach.; b. 1906; A.B., 1933, M.A., 1934, Gonzaga; 1930-32, Santa Clara Univ.; Ph.D., 1947, St. Louis. Fields 1, 11, 16.
- CARROLL, Dudley DeWitt, Country Club Rd., Chapel Hill, N.C. (1916) Univ. of North Carolina, School of Com., dean, prof. of econ., teach.; b. 1885; A.B., 1907, Guilford Col., 1908, Haverford Col.; M.A., 1916, Columbia. Fields 4a, 1a, 9. Dir. W.W. in Amer., Lead. in Educa.
- CARROLL, John J., 201 Vet. Village, Canton, N.Y. (1947)
- CARROLL, John Murray, 36 Ware St., Lewiston, Me. (1913) Bates Col., prof., teach.; b. 1882; A.B., 1909, Bates; A.M., 1914, Harvard. Fields 1, 4, 9.
- CARROLL, Mollie Ray, Box 99, McLean, Va. (1922) Soc. Sec. Admn., Trng. Div., tech. adviser, teach., govt. serv.; Ph.B., 1911, M.A., 1915, Ph.D., 1920, Chicago. Fields 16, 17b.
- CARSEL, Wilfred, 4100 Russell Rd., Mt. Rainier, Md. (1948) Civil Aeronautics Admn., Bur. of Airports, asst. res. dir., teach., res., govt. serv.; b. 1911; Ph.B., 1931, M.A., 1932, Ph.D., 1947, Chicago. Fields 2a, 14, 16. Doc. dis. Wartime apparel price control (Govt. Prtg. Office, Aug., 1947). Pub. History of Chicago Ladies' Garment Workers' Union (Normandy House, 1940); Problems of price control: changing production patterns (Govt. Prtg. Office, Nov., 1947); World fiber survey (Food and Agric. Orgn., July, 1947). Res. Air cargo.
- CARSKADON, Alice K. (Mrs. John H.), 326 Audubon Ave., New York 33, N.Y. (1941) Lionel D. Edie & Co., statis. and chartist, res., bus.; b. 1914; B.A., 1934, Barnard Col. Fields 3a, 12a, 8b.
- CARSON, Daniel, 6204 N. Hoyne Ave., Chicago 45, Ill. (1947) U.S. Railroad Retirement Bd., Office of Res., Unem. and Sickness Benefit Anal. Sec., chief, res., govt. serv.; b. 1897. Fields 16, 17b, 5. Pub. "Accessions to and separations from the labor force; concepts for analysing certain types of labor problems," J.P.E., Dec., 1941. Res. Initial experience of sickness insurance under the Railroad Unemployment Insurance Act.
- CARSON, William Joseph, Loudon Woods, Rye, N.Y. (1924)
- CARTER, John Julian, Amer. Inst. for Econ. Res., Great Barrington, Mass. (1947) Amer. Inst. for Econ. Res., sr. res. asst., dept. head., res., edit.; b. 1920; B.S., 1942, Indiana; 1938-40, Washab Col.; 1946, Indiana. Fields 1, 6, 7. Pub. Where are we going? (1947). Where will tomorrow's opportunities be? (1948). Research reports (weekly) (Amer. Inst. for Econ. Res.). Res. Great Barrington, Mass.—town study; money and credit fluctuations in business cycles; industrial production; statistical indicators of business-cycle movements.
- CARTER, John Philip, 729 Coventry Rd., Berkeley 7, Calif. (1944) Univ. of California, instr., teach., res.; b. 1914; A.B., 1936, Columbia; Ph.D., 1947, California. Fields 13ab, 6, 14ac. Doc. dis. Transportation rates and their relation to the location of production. Pub. Structure of transcontinental railroad rates (with S. Daggett) (Univ. of California Press, 1947); "Prospect for economic growth: comment," A.E.R., Dec., 1947; "Air freight rates," Proceed. of Pacific Coast Econ. Asso., 1947. Res. Pricing air transportation. Dir. W.W. in Amer.
- CARTER, Lucian Hugh, Univ. of Kentucky, Col. of Com., Lexington, Ky. (1929)
- CARTER, William Ambrose, Elm St., Norwich,

Vt. (1928) Dartmouth Col., prof. of econ. dept. head., teach., res.; b. 1899; A.B., 1920, Dartmouth; A.M., 1928, Missouri; 1931-32, Princeton. Fields 12, 7, 8. Pub. Corporate concentration and public policy (Prentice-Hall, 1942). Dir. Dir. of Schol., W.W. in East.

CARTER, William Harrison, Univ. of Connecticut, Storrs, Conn. (1930) Univ. of Connecticut, prof., dept. head, teach., res.; b. 1905; A.B., 1926, Amherst; M.A., 1930, Ph.D., 1932, Harvard; 1938, American. Fields 10, 7, 1a. Doc. dis. American branch plants in Canada. Pub. Economic geography (with R. E. Dodge) (Odyssey Press, 1939). Res. Economic theory; international capital movements. Dir. Dir. of Schol., W.W. in East, in Ind. and Com.

CARTINHOOR, Gaines T., Forest Hills Inn, Forest Hills, L.I., N.Y. (1938)

†CARVER, Thomas Nixon, 226 Palisades Ave., Santa Monica, Calif. (1893) Harvard Univ., prof. emeritus, teach.; b. 1865; A.B., 1891, Univ. of Southern California; 1891-93, Johns Hopkins; Ph.D., 1894, Cornell Univ. Fields 1a, 15b, 17a. Doc. dis. The theory of wages adjusted to recent theories of value (Q.J.E., July, 1894). Pub. Distribution of wealth (Macmillan, 1904); Principles of rural economics (Ginn, 1911); Essays in social justice (Harvard Univ. Press, 1915). Res. Economic functions of government. Dir. W.W. in Amer., in Educa.

CASCINO, Anthony, Bendix Home Appliances, Inc., 3300 W. Sample St., South Bend 24, Ind. (1946)

*CASE, Fred Ewing, Indiana Univ., School of Bus., Bloomington, Ind. (1947) Indiana Univ., School of Bus., instr., asst. to dean, teach.; b. 1918; B.S., 1942, M.B.A., 1948, Indiana. Fields 15e, 11a, 8a.

CASE, Harold Clayton M., 612 W. Ohio St., Urbana, Ill. (1919) Univ. of Illinois, Agric. Econ. Dept., head; res., teach., govt. serv.; b. 1890; B.S., 1912, M.S., 1919, Illinois; Ph.D., 1931, Wisconsin; 1922, Cornell Univ. Fields 15ab, 17, 10. Doc. dis. Tenancy in relation to the organization and operation of corn-belt farms. Pub. "Farm practices that pay," Univ. of Illinois Bul.; Report of the China-United States Agricultural Mission (Office of For. Agric. Rela., May, 1947); Long range agricultural policy and program (U.S. Senate Report, 1948). Res. Land tenure. Dir. W.W. in Amer., Lead. in Educa., Int. W.W.

CASE, Winthrop Warren, Fed. Res. Bank, For. Res. Div., 33 Liberty St., New York 45, N.Y. (1947) Fed. Res. Bank of N.Y., econ., edit., res.; b. 1897; 1914-15, Beloit; A.B., 1920 (as of 1919), 1925-26, Harvard. Field 10.

CASKEY, Wayne Farley, 1560 St. Vincent's Ave., La Salle, Ill. (1933)

CASSADY, Ralph, Jr., Univ. of California, Los Angeles 24, Calif. (1943) Univ. of California at Los Angeles, prof., managing edit. Jour. of Mktg.; res., teach., edit.; b. 1900; B.S., 1924, M.S., 1927, Ph.D., 1930, California. Fields 11b, 17d, 1a. Doc. dis. Monopolistic practices in the motion picture industry. Pub. The consumer and the economic order (with W. C. Waite) (McGraw-Hill, 1939); Retail distribution structure of the small city (with H. J. Ostlund) (Univ. of Minnesota Press, 1935); "Some economic aspects of price discrimination under non-perfect marketing conditions," Jour. of Mktg., July, 1946. Res. Radio as advertising medium; trends in antitrust decisions. Dir. W.W. in Amer. (monthly sup.).

CASSIDY, Elliott, 5912 14th St., N.W., Washington 11, D.C. (1948) Dept. of Defense, Munitions Bd., logistic specialist, staff aide to dir. of staff, govt. serv., bus., res.; b. 1911; A.B., 1934, M.A., 1935, Ph.D., 1939, Illinois. Fields 12b, 11a, 14. Doc. dis. Denial of justice—a concept in international law (Univ. of Illinois, 1939). Pub. The dehydration industry in World War II (War Dept., 1945); Logistics in World War II (Army Dept., 1947); Relationship of the Army Air Forces to the War and Navy Departments and to the civilian war agencies (A.A.F. Hist. Ser., 1946). Res. Logistics.

CASSIDY, Harry M., School of Social Work, 273 Bloor St., W., Toronto, Ont., Canada, (1939)

CASSIDY, James Kinsella, Mercy Hospital, Cedar Rapids, Iowa. (1944)

CASSIDY, William James, 300 Temple Bldg., 903 Grand Ave., Kansas City, Mo. (1941) NLRB, sr. field examiner, govt. serv.; b. 1903; B.S., 1927, Edinboro Teach. Col.; M.Ed., 1934, Pittsburgh. Fields 16, 4a, 1b. Res. The tri-state miner: his problems and their solution (doc. dis.)

CASTILLO, Eugenio, 110 Tullamore Rd., Garden City, Nassau Co., N.Y. (1947)

*CASTLES, Ira Columbus, Box 130, R. 1, Chapel Hill Rd., Durham, N.C. (1947) Univ. of North Carolina, student, teach.; b. 1913; B.S., 1934, Louisiana; 1936, American; 1941, George Washington; A.M., 1948, Columbia. Field 10.

CATLIN, Warren Benjamin, 268 Maine St., Brunswick, Me. (1909) Bowdoin Col., prof., dept. head; b. 1881; A.B., 1903, Nebraska; Ph.D., 1927, Columbia. Fields 16, 1b, 11ab. Doc. dis. Labor problem in U. S. and Great Britain (Harpers, 1926, 1935). Res. Progress of economics. Dir. W.W. in Amer.

CAULFIELD, Henry P., Jr., 8 Fairfield St., Apt. 2, Boston 16, Mass. (1944)

CAVE, Evelyn Weinberg, 5214 Fifth Ave., Pittsburgh 6, Pa. (1948)

CAVE, Richard A., 38 Bulwer Pl., Brooklyn 7, N.Y. (1946)

CAVE, Roy Clinton, 467 Kentucky Ave., Berkeley 7, Calif. (1928) San Francisco State Col., prof., teach., res.; b. 1899; A.B., 1923, M.A., 1924, Univ. of Washington; 1924-25, Harvard; Ph.D., 1928, California. Fields 17bd, 1ac, 16. Doc. dis. Social stratification and market price. Pub. A source book for medieval economic history (with H. H. Coulson) (Bruce, 1936); "Distribution of property in two California counties," A.E.R., Dec., 1940; "Shortcomings of marginal analysis as an explanation of retail price determination," Proceed. of Pacific Coast Econ. Assoc., Dec., 1947. Res. Economics of consumption.

CAVERLY, Harcourt L., 1000 Penobscot Bldg., Detroit 26, Mich. (1943)

CAVERT, William Lane, 1443 Grantham St., St. Paul 8, Minn. (1942)

CAVES, Margaret R., Univ. of Buffalo, School of Bus. Admin., Buffalo, N.Y. (1947)

CAVIN, James Pierce, 7813 Aberdeen Rd., Bethesda, Md. (1940)

CAWTHORNE, Delmas Richard, 214 W. Withrow, Oxford, Ohio. (1939) Miami Univ., prof. of econ., teach., res.; b. 1907; A.B., 1929, Georgetown Col.; M.A., 1931, Ph.D., 1940, Ohio State. Fields 7, 6, 3c. Doc. dis. Commercial banking and capital accumulation. Pub. Money and banking (Macmillan, 1941). Res. Money and banking.

CAZELL, Gabriel Francois, 1201 Valley Ave., S.E., Washington 20, D.C. (1944) American Univ., assoc. prof., teach.; b. 1917; B.A., 1937, M.S., 1939, Texas A. and M.; 1939-41, Minnesota. Fields 1a, 3a, 7.

*CECCHINI, Louis P., 4704 Rosedale Ave., Bethesda 14, Md. (1947)

CELLA, Francis Raymond, Univ. of Oklahoma, Norman, Okla. (1945) Bur. of Bus. Res., dir.; Col. of Bus. Admin., asso. prof. of bus. statis.; res., teach.; b. 1909; A.B., 1933, Kentucky Wesleyan Col.; M.A., 1937, 1937-42, Kentucky. Fields 3ab, 1c, 6. Pub. Dynamics of employment and unemployment (Ky. Unem. Comp. Commis., 1942); "An analysis of the proposed federal one per cent diversion plan," N.A.M. Econ. Bul., 1941; A proposed benefit formula based upon annual wages (Ky. Unem. Comp. Commis., 1939). Res. Sampling statistics in business and economics (doc. dis.); managerial control statistics.

CELLARIUS, P., c/o N. V. Handelsvereniging Amsterdam, Sabaya, Java, D.E.I. (1947)

CENTER, Charles Converse, Sterling Hall, Madison, Wis. (1945) Univ. of Wisconsin, assoc. prof., teach., res.; b. 1910; B.S., 1932, Knox Col.; M.A., 1938, Ph.D., 1941, Wisconsin. Field 8. Doc. dis. Comparative principles in private and social insurance. Pub. "Price control in the drug trade,"

Amer. Druggist, 1943. Res. Federal regulation of insurance.

CEVALLOS, Bernardo, 270 Broadway, New York 7, N.Y. (1945) Consulate General of El Salvador, consul general, govt. serv., res., bus.; b. 1894; B.S., 1914, Salvadorean Lycum. Fields 11a, 17b, 3a, Pub. Compensated index numbers of wholesale prices of El Salvador, Sept., 1944. Cost of living of the working class, city of San Salvador, Sept., 1944. Statistical methods and practice, 1943, Revista Banco Hipotecario (San Salvador). Dir. W.W. in Amer.

CHACE, James Edward, Jr., 1228 Kentucky Ave., Gainesville, Fla. (1930)

CHADBOURNE, Ellis, Boston Col., Dept. of Econ., Chestnut Hill, Boston, Mass. (1947)

CHADBOURNE, Walter Whitmore, 3 Corrinne Ct., Wilmington 278, Del. (1939) Hercules Powder Co., Econ. Res. Div., mgr., bus.; b. 1899; B.A., 1920, Maine; M.B.A., 1922, Ph.D., 1938, Harvard. Fields 11, 3, 7.

*CHADWICK, Leonard Edwin, 113 South Hall, Univ. of California, Berkeley 4, Calif. (1942)

CHAIKEN, Israel Bernard, 50 Washington Sq., S., New York 12, N.Y. (1944) Schenley Distillers Corp., statis., res., bus.; b. 1922; B.A., 1941, New York. Fields 3a, 11b.

*CHALFIN, Seymour, 2334 19th St., N.W., Washington 9, D.C. (1947) George Washington Univ., student; b. 1919. Fields 16, 17bc, 4b.

CHALMERS, Henry, 5335 43rd St., N.W., Washington 15, D.C. (1918) U.S. Dept. of Com., consult. on com. policy, govt. serv.; b. 1892; A.B., 1914, A.M., 1914, Cornell Univ.; Ph.D., 1928, Brookings. Fields 10, 2a, 4ac. Doc. dis. A foreign commercial policy for U.S. Pub. Japanese cotton industry and trade (U.S. Tariff Com., 1921); European tariff policies since the war (U.S. Dept. of Com., 1924); "Inter-American trade policy" in Economic problems of Latin America (McGraw-Hill, 1944). Dir. W.W. in Amer., Dir. of Schol., Int. W.W.

CHALMERS, John, Kenyon Col., Gambier, Ohio. (1947) Kenyon Col., asso. prof., teach., res., govt. serv.; b. 1916; A.B., 1938, Middlebury Col.; 1938-39, Oxford Univ.; Ph.D., 1943, Cornell Univ. Fields 9, 7, 1a. Doc. dis. New York State personal income tax, 1919-43.

CHALMERS, W. Ellison, Inst. of Labor and Ind. Rel., Univ. of Illinois, 434 Mumford Hall, Urbana, Ill. (1947)

*CHAMBERLAIN, Mariam Kenosian (Mrs. Neil W.), 1145 Chapel St., Apt. 306, New Haven, Conn. (1942) Albertus Magnus Col., instr., teach., res.; b. 1918; A.B., 1939, M.A., 1948, Radcliffe Col. Fields 12a, 6, 5. Res. Effects of large-scale business organizations on full employment (doc. dis.).

CHAMBERLAIN, Neil Wolverton, 333 Cedar St., New Haven, Conn. (1941) Yale Univ., asst. prof. of econ., res., teach.; b. 1915; A.B., 1937, A.M., 1939, Western Reserve; Ph.D., 1942, Ohio State. Fields 16, 12, 4a. Doc. dis. Collective bargaining procedures (Amer. Coun. on Pub. Affairs, 1944). Pub. Union challenge to management control (Harper, 1948); "The organized business in America," J.P.E., June, 1944; "The nature and scope of collective bargaining," Q.J.E., May, 1944. Res. Standardization of wages. Dir. W.W. in New England.

CHAMBERLIN, Edward Hastings, 4 Channing St., Cambridge 38, Mass. (1928) Harvard Univ., prof., teach., edit., res.; b. 1899; B.S., 1920, Iowa; M.A., 1922, Michigan; M.A., 1924, Ph.D., 1927, Harvard. Fields 1ab, 12a, 4b. Doc. dis. Theory of monopolistic competition (Harvard Univ. Press, 1933; 6th ed., 1948). Pub. "Monopolistic or imperfect competition?" Aug., 1937, "Proportionality, divisibility and economics of scale," Feb., 1943, Q.J.E.; "An experimental imperfect market," Apr., 1943, J.P.E. Res. Value and distribution. Dir. W.W. in Amer.

CHAMBERLIN, Veil Burrows, Glen Elyn, Ill. (1929) Illinois Inst. of Tech., assoc. prof. of econ., teach., res.; b. 1897; B.S., 1920, Colgate; 1921-23, Columbia; M.A., 1926, Michigan; J.D., 1931, Chicago. Fields 9, 7, 4. Dir. W.W. in Central States.

CHAMBERS, Edward James, Whitman Col., Dept. of Econ., Walla Walla, Wash. (1943) Whitman Col., instr.; b. 1925; B.Com., 1945, B.A., 1946, M.A., 1947, British Columbia. Fields 10, 9, 7.

CHAMBERS, Raymond, Univ. of Buffalo, Edmund Hayes Hall, 3435 Main St., Buffalo 14, N.Y. (1922) Univ. of Buffalo, prof. of econ. hist., teach., res.; b. 1890; A.B., 1911, Northwestern; M.A., 1913, Ph.D., 1924, Harvard. Fields 2a, 15d, 8b. Doc. dis. History of transportation in Mexico. Pub. "Chautauqua grape industry," N.Y. Hist., July, 1935. Res. Grape industry in Michigan.

*CHAN, Kwan-Yok, 55 Mott St., New York, N.Y. (1948)

CHANCELLOR, William Estabrook, 1603 W. Market Blvd., Lima, Ohio. (1934) Xavier Univ., retired prof. of econ.; b. 1867; A.B., 1889, A.M., 1895, Amherst; LL.B., 1937, Xavier; 1893-94, Harvard. Fields 16, 2a, 17d. Res. Wages; human ecology. Dir. W.W. in Amer., Lead. in Econ., Brit. W.W. of Authors and Writers.

CHANCES, Ralph J., Trinity Col., Hartford, Conn. (1947)

CHANDLER, Howard, 205 W. Monroe, Chicago 6, Ill. (1946) Pitman Pub. Corp., bus., edit.; b. 1915; A.B., 1935, A.M., 1936, Chicago. Fields 1, 9, 10. Pub. "The Winnetka, Ill., municipal electric plant," Pub. Admin., Oct., 1935; Public health facilities in Iowa (1937), Recreation facilities in Iowa (1938) (Iowa State Planning Bd.).

CHANDLER, Lester Vernon, 211 S. Pleasant St., Amherst, Mass. (1939)

CHAPMAN, Herman Hollis, 509 9th St., Tuscaloosa, Ala. (1922) Univ. of Alabama, School of Com. and Bus. Admin., Bur. of Bus. Res., prof. of bus. statis., dir.; res., teach.; b. 1894; A.B., 1918, Michigan; 1919-21, Minnesota; Ph.D., 1935, Columbia. Fields 14, 6, 3. Doc. dis. Iron and steel companies in years of prosperity and depression (published privately, 1935). Pub. "Alabama state notes," Southern Econ. Jour., 1935-41, 1945-47. Res. Iron and steel industry of Southeast; coal industry of Alabama; economic survey of Mobile, Alabama. Dir. W.W. in Amer.

*CHAPMAN, Janet Goodrich, 534 W. 124th St., New York 24, N.Y. (1947) Columbia Univ., student; b. 1922; A.B., 1943, Swarthmore; 1946-48, Columbia. Fields 4a, 1a, 10. Res. Economics of the Soviet iron and steel industry.

CHAPMAN, John M., Columbia Univ., School of Bus., New York, N.Y. (1920)

CHARLTON, Joseph William, 1407 Elm St., Grinnell, Iowa. (1944)

CHARTENER, William Huston, 2716 Bailey Ave., Buffalo 15, N.Y. (1947) Univ. of Buffalo, instr. in econ. and statis. teach.; b. 1924; B.A., 1945, Haverford; M.A., 1947, Harvard. Fields 16, 1, 4. Res. History of Molders' Union.

*CHASE, Charles Harry, Westchester Apts. 123-B, Washington 16, D.C. (1916)

CHASE, Stuart, Georgetown, Conn. (1942) Free lance writer; b. 1888; S.B., 1910, Harvard. Fields 4, 5, 16. Doc. dis. Tragedy of waste (Macmillan, 1925). Pub. Your money's worth (with F. J. Schlink) (1927), Economy of abundance (1934) (Macmillan); Proper study of mankind (Harper, 1948). Dir. W.W. in Amer., Int. W.W., British W.W.

CHATTERJEE, Susil Chandra, 20 Addiscombe Grove, East Croydon, Surrey, England. (1947) Gen. Dept. Office of High Commissioner for India, asst. officer, edit., res., bus.; b. 1925; B.A. (Honours), 1948, Univ. of Calcutta. Fields 10, 16, 17b.

CHAWNER, Lowell J., 3232 Chestnut St., N.W., Washington 15, D.C. (1933)

CHECCHI, Vincent Victor, 1844 Kenyon St., Washington, D.C. (1945) Int. Bank for Recon. and Development, loan officer; Econ. Service Agency, pres.; govt. serv., bus.; b. 1918; A.B., 1940, Maine; 1940-41, Harvard; M.A., 1944, George Washington. Fields 10, 9, 7. Pub. "European recovery program," Apr., 1948, "Money—production—and inflation," May, 1948, "Housing problem," June, 1948, Topic of the Month. Res. Electoral college.

*CHELEY, Willard Fred, 3819 44th N.E., Seattle 5, Wash. (1946) Harvard Bus. School, student;

teach., bus.; b. 1921; A.B., 1946, Univ. of Washington; 1947-48, Harvard. Fields 8, 11, 1.

CHEN, Henry Hsin-Cheung, 610 W. 115th St., New York, N.Y. (1942)

CHEN, Sidney Y. C., 15 Honan Rd., Tsingtao, China. (1946) Ind. and Mining Bank of China, sub-mgr.; Nat. Shantung Univ., prof.; teach., bus.; b. 1906; B.A., 1930, Yenching Univ.; M.A., 1940, Southern California. Fields 4c, 2a, 1a. Pub. "Marshallian theories of value and distribution," Jour. of Academica, May, 1948. Res. Co-operative movement in China.

***CHEN, Yu-nien**, 147-60, Apt. D, Charter Rd., Jamaica 2, N.Y. (1947) Harvard Univ., student; b. 1913; B.A., 1937, Wu-han Univ.; M.A., 1946, Harvard. Fields 1c, 3b, 8b. Res. Dynamics of American tung oil market behavior.

CHENAULT, Lawrence Royce, 205 E. 78th St., New York 21, N.Y. (1938) Hunter Col., assoc. prof., teach., res.; b. 1897; B.B.A., 1920, Texas; A.M., 1933, Wayne; Ph.D., 1938, Columbia. Fields 1a, 11ac, 17a. Doc. dis. Puerto Rican migrant in New York City (Columbia Univ. Press, 1938). Pub. "Population problem of Puerto Rico," Soc. Forces, Mar., 1941. Res. Economics for students of business.

CHENEY, Coleman B., Skidmore Col., Dept. of Econ., Saratoga Springs, N.Y. (1948)

CHENEY, Roy Alexander, 2 Park Ave., New York, N.Y. (1940)

CHENKIN, Alvin, 1908 Prospect Ave., Bronx 57, New York, N.Y. (1945) Coun. of Jewish Fed. and Welfare Funds, res. asst., res., edit.; b. 1918; B.S.S., 1940, City of New York; 1941-42, New School for Soc. Res.; 1942-45, American. Fields 1a, 5, 16. Res. Theories of exploitation (master's thesis).

CHERIN, Gabriel, 3424 B St., S.E., Washington, D.C. (1947)

CHERRINGTON, Charles R., Westford Rd., Concord, Mass. (1939)

CHERRINGTON, Paul Whiton, 1210 N. Pitt St., Alexandria, Va. (1946) Civil Aeronautics Bd., exec. asst. to chmn., govt. serv.; B.S., 1940, Harvard. Fields 13ab, 12, 11ac.

CHERNICK, Jack, Univ. of Kansas, School of Bus., Lawrence, Kan. (1943)

***CHERNICK, Sidney Earl**, 319 Manitoba Ave., Winnipeg, Man., Canada. (1946) B. 1924; B.A., 1947, Univ. of Manitoba; M.A., 1948, Univ. of Toronto; 1948, M.I.T. Fields 1a, 16, 6.

CHERRINGTON, Ben Mark, Univ. of Denver, Denver 10, Colo. (1936) Soc. Sci. Found., Univ. of Denver, dir., teach., res., govt. serv.; b. 1885; A.B., 1911, L.L.D., 1946, Nebraska; M.A., 1922, California; Ph.D., 1934, Columbia. Fields 4ac, 10, 2.

CHERRINGTON, Homer Virgil, 1725 Orrington Ave., Evanston, Ill. (1923)

CHESKIN, Irving W., Sampson Col., Dept. of Econ., Sampson, N.Y. (1948) Sampson Col., Dept. of Econ., asst. prof. of econ., teach., res., govt. serv.; b. 1915; 1936-37, Pennsylvania; B.A., 1936, Brooklyn Col.; M.S.S., 1938, New School for Soc. Res. Fields 16, 15c, 1.

CHESTER, Harry L., 19242 Rockcastle St., Bldg. 2, Apt. 208, Gratiot Township, Mich. (1947)

CHEYFITZ, Edward Theodore, 1600 Eye St., N.W., Washington 6, D.C. (1946) Motion Picture Asso. of Amer., Inc., asst. to pres., edit., res.; b. 1913; B.A., 1934, Michigan. Fields 16, 11, 4. Pub. Constructive collective bargaining (McGraw-Hill, 1947); "More for less," Fortune, Dec., 1946. Dir. W.W. in Labor.

CHEYNEY, William James, 917 15th St., N.W., Washington, D.C. (1932)

CHHATRAPATI, Arun C., Ranchhodji Slope, Broach, India. (1948)

***CHIANG, Kenneth Youkeng**, 5629 Woodlawn Ave., Chicago 37, Ill. (1948) Univ. of Chicago, student; b. 1913; B.A., 1939, Cen. Univ. of Polit. Sci., China; 1945-48, Chicago. Fields 1ac, 7, 9.

CHICKERING, Martha A., Box 246, Lucerne Valley, Via Victorville, Calif. (1931)

CHILDS, Frank Elmer, School of Bus. Admin., Univ. of Minnesota, Minneapolis 14, Minn. (1936) Univ. of Minnesota, School of Bus. Admin.,

instr., teach., res.; b. 1913; B.A., 1934, Willamette Univ.; M.B.A., 1936, Southern California; 1938-48, Minnesota. Fields 16, 1ac, 3ab.

CHILDS, James Bennett, Lib. of Cong., Washington 25, D.C. (1925) Lib. of Cong., govt. serv.; b. 1896; B.A., 1918, B.L.S., 1921, Illinois. Fields 4, 2. Pub. Government document bibliography in U.S. and elsewhere (Lib. of Cong., 3rd ed., 1942). Dir. W.W. in Amer., Dir. of School., Lead. in Educa.

***CHINGOS, Eleutherius George**, 818-20 Ave. of Americas, New York 1, N.Y. (1934) Chingos & Sons, secy.-mgr., bus.; b. 1907; B.S. New York. Fields 12, 11, 1.

CHINLUND, Edwin F., R. H. Macy and Co., 151 W. 34th St., New York 1, N.Y. (1924)

CHLEPNER, B. S., 79 Ave. Albert Lancaster, Uccle, Brussels, Belgium. (1942) Univ. of Brussels, prof., teach., res.; b. 1890; Dr. Econ., 1913, Brussels. Fields 4ab, 7, 8ab. Doc. dis. Paper money in Russia. Pub. La Banque en Belgique (1926), Le Prélèvement sur le capital (1923) (Lamertin, Brussels); Belgian banking and banking theory (Brookings, 1943). Res. Money and banking in Belgium since 1830.

CHRISMAN, Richard G., 154 Prospect St., Elmhurst, Ill. (1948)

***CHRIST, Carl Finley**, 9551 Longwood Dr., Chicago 43, Ill. (1947) Cowles Com. for Res. in Econ., Univ. of Chicago, Soc. Science Res. Coun. fellow, res.; b. 1923; 1940-42, Colorado Col.; B.S., 1943, 1946-48, Chicago. Fields 1ac, 3ab, 7. Res. Econometric model of the U.S. economy since 1920.

CHRISTELOW, Allan, Box 680, Benjamin Franklin Sta., Washington, D.C. (1944)

***CHRISTELOW, Dorothy Beal** (Mrs. Allan), Box 680, Benjamin Franklin Sta., Washington, D.C. (1946)

CHRISTEN, Elizabeth H., Box 98, R.D. 1, Watervliet, N.Y. (1946)

CHRISTENSEN, Kenneth Chester, 245 Market St., San Francisco 6, Calif. (1946) Pacific Gas and Elec. Co., asst. treas., bus.; b. 1908; A.B., 1931, Stanford. Fields 8ab, 13a, 11ac.

CHRISTENSON, Carroll Lawrence, 213 S. Bryan Ave., Bloomington, Ind. (1925) Indiana Univ., dept. of econ., prof., dept. head, teach., res.; Ph.B., 1924, Ph.D., 1931, Chicago. Fields 16, 12, 1a. Doc. dis. Collective bargaining in Chicago: 1929-30 (Univ. of Chicago Press, 1933). Pub. Economics, principles and problems (Crowell, 1942; rev., 1947); "Economic implications of renegotiation of government contracts," J.P.E., Mar., 1944; "Seniority rights under labor union working agreements," Temple Law Quar., Apr., 1937. Res. Antitrust legislation and trade union activity. Dir. W.W. in Amer., in Central States.

CHRISTIAN, David E., Coun. of Econ. Advisers, Room 369, Old State Bldg., Washington 25, D.C. (1946)

CHRYSLER, Russell Loren, 3404 Whitfield Ave., Cincinnati 20, Ohio. (1937)

CHUDSON, Walter Alexander, Dept. of Econ. Affairs, United Nations, Lake Success, N.Y. (1939) Dept. of Econ. Affairs, United Nations, econ., res., govt. serv.; b. 1914; B.A., 1934, Pennsylvania; B.A., 1936, Oxford Univ.; Ph.D., 1942, Columbia. Fields 10, 1a, 7. Doc. dis. Pattern of corporate financial structure (Nat. Bur. of Econ. Res., 1945). Pub. Foreign exchange position of devastated countries (collaborator) (Dept. of Econ. Affairs, U.N., Feb., 1948). Res. Foreign investments and problems of resumption of private foreign investment.

CHURCHILL, Arthur M., 2491 S.W. Sherwood Dr., Portland, Ore. (1944)

CHUTE, Aaron Hamilton, Univ. of Texas, Waggener Hall, Austin 12, Tex. (1937) Univ. of Texas, Col. of Bus. Admin., prof. of retailing; Bur. of Bus. Res., retailing specialist; teach., res., bus.; b. 1891; B.A., 1916, Michigan; M.A., 1931, Ph.D., 1935, Ohio State. Fields 11, 7, 14ac. Doc. dis. Marketing burned-clay products (Ohio State Univ., Bur. of Bus. Res., 1939). Pub. Retailing by pharmacists (Burgess, 1941); five chap-

ters in Marketing by manufacturers (C. F. Phillips, editor) (Richard D. Irwin, 1946); Income data as a guide to marketing in Minneapolis (with W. F. Kissick and R. L. Kozelka) (Bur. of For. and Dom. Com., with Co-op. Bus. Res. Sta., Univ. of Minnesota, 1942). Res. Retailing relationships and problems in certain Texas communities; handbooks for small retailers of Texas; retailing textbooks based on Texas practices.

CHUTIMA, Krongthong, 5 Daejo Rd., Bangkok, Siam. (1945)

*CIACCIO, Jack Nicholas, International House, 1414 E. 59th St., Chicago 37, Ill. (1948) Univ. of Chicago, student; b. 1920; B.A., 1947, Cincinnati; 1947-48, Chicago. Fields 7, 1a, 6.

CIOSEK, Carl Peter, Univ. of Connecticut, Fort Trumbull Br., New London, Conn. (1948) Univ. of Connecticut, Fort Trumbull Br., chairman, teach. res. b. 1915; A.B., 1940, M.S., 1946, Massachusetts. Fields 1, 15cd, 12.

CIST, Frank, Box 775, Delray Beach, Fla. (1941) B. 1888; A.B., 1909, Princeton; LL.B., 1912, Harvard. Fields 7, 6, 1a. Pub. "Comment on the future of gold standard," May, 1943, "Tariff and unemployment," Nov., 1944, Com. and Fin. Chron. Res. Marshall's theories in fields of credit and business cycle.

CLACK, R. W. Douglas, 219 E. Delano St., Tucson, Ariz. (1947) Independent bus. anal., res., edit., bus.; b. 1918; B.S., 1939, Alma Col.; M.A., 1940, Kalamazoo Col.; 1940-41, 1941-42, Indiana. Fields 6, 1a, 16. Pub. General appraisal standards and methods for measuring public administration (Indiana Univ. Inst. of Politics, 1942); "Risks of investment," Seminar Bul. (Life Officers' Invest. Seminar), May, 1942. Res. Measurement of business cycle changes by psychological analysis of expectations.

CLAGUE, Ewan, 3821 Woodley Rd., N.W., Washington 16, D.C. (1932) Dept. of Labor, Bur. of Labor Statis., commissioner, govt. serv., res.; b. 1896; A.B., M.A., 1921, Univ. of Washington; Ph.D., 1929, Wisconsin. Fields 16, 17b, 3. Doc. dis. Productivity of labor in American industry (Monthly Labor Rev., July, Oct., Nov., Dec., 1926, Jan., 1927). Pub. After the shutdown (Yale Univ., 1934); Ten thousand out of work (Univ. of Pennsylvania, 1933); Charitable trusts (Pennsylvania School of Soc. Work, 1935). Dir. W.W. in Amer.

CLARK, Daniel Mason, Univ. of Texas, 313 Waggener Hall, Austin, Tex. (1947)

CLARK, E. Harrison, Int. Bank for Reconstruction and Development, 1818 H St., N.W., Washington 25, D.C. (1940) Int. Bank for Reconstruction and Development, econ., res.; B.A., 1934, M.A., 1935, McGill; Ph.D., 1939, Harvard. Fields 10, 7.

CLARK, Eugene, Ohio Wesleyan Univ., Dept. of Econ., Delaware, Ohio. (1943)

CLARK, Evans, Twentieth Century Fund, 330 W. 42nd St., New York 18, N.Y. (1932) Twentieth Century Fund, exec. dir., edit.; b. 1888; B.A., 1910, Amherst; 1910-11, Harvard; M.A., 1931, Columbia. Pub. Financing the consumer (1930), How to budget health (1933) (Harper); Internal debts of U.S. (Macmillan, 1933). Dir. W.W. in Amer., in East, Dir. of Schol.

CLARK, Floyd Barzilia, So. Sta. 5766, College Station, Tex. (1941) A. and M. Col. of Texas, retired prof.; b. 1886; B.A., 1907, M.A., 1908, Richmond Col.; Ph.D., 1914, Johns Hopkins. Fields 1b, 7, 9. Doc. dis. Constitutional doctrines of Justice Harlan (Johns Hopkins Studies, 1915). Pub. Expansion of economic concepts (Southwest Press, 1932); Economics of distribution (A. and M. Press, 1933); "Disciplinary action against controlling agencies of publicly supported educational institutions," School and Society, Dec., 1947. Res. Economic concepts in perspective.

CLARK, Fred Emerson, 1907 Orrington Ave., Evanston, Ill. (1914) Northwestern Univ., School of Com., Morrison Prof. of Mktg., teach.; b. 1890; B.A., 1912, Albion Col.; M.A., 1913, Ph.D., 1916, Illinois. Fields 11ab, 12, 15b. Doc. dis. Purposes

of the indebtedness of American cities 1880-1912 (Munic. Res., No. 75, July, 1916). Pub. Principles of marketing (3rd ed. with C. P. Clark) (1922, 1932, 1942), Marketing of farm products in the United States (with L. D. H. Weld) (1932) (Macmillan). Res. Marketing meat. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

CLARK, Harold Florian, Columbia Univ., Teachers Col., New York 27, N.Y. (1930) Columbia Univ., prof., teach., res., edit.; b. 1899; Ph.D., 1923, Columbia; 1926-27, London School of Econ.; LL.D., 1936, Asbury. Fields 17d, 5, 1a. Doc. dis. Cost of government and support of education (Columbia Univ., Teachers Col., Bur. of Pub., 1924). Pub. Economic theory and correct occupational distribution (Columbia Univ., Teachers Col., Bur. of Pub., 1933); Life earnings in selected occupations (Harper, 1936); Economics (Amer. Book, 1948). Res. Economic resources of the ocean; effects of education in raising standards of living in low income communities. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

CLARK, John Davidson, Shoreham Hotel, Washington, D.C. (1929) Coun. of Econ. Advisers, memb.; Univ. of Nebraska, prof. (on leave); govt. serv.; b. 1884; A.B., 1905, Nebraska; LL.B., 1907, Columbia; Ph.D., 1931, Johns Hopkins; LL.D., 1938, Nebraska. Fields 4a, 12b, 8a. Doc. dis. Federal trust policy (Johns Hopkins Press, 193). Pub. Reports of the Council of Economic Advisers (1947-48); Postwar Omaha: an economic analysis (Omaha Ch. of Com., 1945). Dir. W.W. in Amer.

CLARK, John Maurice, 41 Wright St., Westport, Conn. (1909) Columbia Univ., prof. of econ., res., teach., b. 1884; A.B., 1905, Amherst; M.A., 1906, Ph.D., 1910, Columbia; L.H.D. (Hon.), 1935, Amherst; LL.D., 1941, Chicago. Fields 1ab, 12, 6. Doc. dis. Standards of reasonableness in local freight discriminations (Columbia Univ. Studies, 1910). Pub. Economics of overhead costs (Univ. of Chicago Press, 1923); Social control of business (McGraw-Hill, 1926; 2nd ed. 1939); Alternative to serfdom (A. A. Knopf, 1948). Res. Inflationary pressures at high-level employment. Dir. W.W. in Amer., Int. W.W.

CLARK, Lincoln Harold, Univ. of Tennessee, Knoxville, Tenn. (1941) Univ. of Tennessee, prof. of mktg., teach., res.; 1929-32, Wesleyan Univ. (Middletown, Conn.); 1932-33, Univ. of Munich; A.B., 1937, M.B.A., 1938, Ph.D., 1940, Chicago. Fields 11b, 12b, 4c. Doc. dis. Credit unions in U.S. (Jour. of Bus., 1942). Pub. "The cooperative one-half of one percent," Q.J.E., 1943; "Credit unions in the personnel program," Public Personnel Rev., 1944; "Marketing courses and marketing research," Jour. of Mktg., Apr., 1948. Res. Public policy on marketing.

CLARK, Margaret (Mrs. Sidney B.), 2728 Porter St., N.W., Washington 8, D.C. (1944) Civil Aeronautics Bd., air transport econ., govt. serv.; b. 1921; B.A., 1941, Hunter Col.; summer, 1941, City of New York; M.A., 1945, American; 1945, George Washington. Fields 13b, 12b, 3a.

CLARK, Ralph Nelson, 32 Longview Dr., Longmeadow 6, Mass. (1946)

CLARK, Robert F., Marietta Col., Marietta, Ohio. (1936)

CLARK, Walter Ernest, 524 Cheney St., Reno, Nev. (1902) Univ. of Nevada, pres. emeritus; b. 1873; B.A., 1896, M.A., 1899, Ohio Wesleyan; Ph.D. 1903, Columbia; LL.D., 1918, Ohio Wesleyan, 1938, Nevada. Fields 2b, 7, 16. Doc. dis. Josiah Tucker—economist (Columbia Univ., 1903). Pub. The cost of living (McClurg, 1915); The trust problem (with J. W. Jenks) (Doubleday Page, 1917). Dir. W.W. in Amer.

CLARK, William Clifford, Room 239, Confederation Bldg., Ottawa, Ont., Canada. (1919) Govt. of Canada, Dept. of Fin., deputy minister of fin., Treas. Bd., secy., gov. serv.; b. 1889; M.A., 1910, Queen's Univ.; M.A., 1915, Harvard; LL.D. (hon.), 1934, Queen's Univ. Fields 9, 4, 12. Doc. dis. The skyscraper (with J. L. Kingston) (Amer. Inst. of Steel Construction, 1929). Pub. "Financial administration of the government of Canada," Canadian Jour. of Econ. and Polit. Sci., Aug.,

1938; "Construction industry," in Representative American industries (Warshow) (Holt, 1938); Postwar international monetary stabilization (Inst. on Postwar Reconstruction, New York Univ., Dec. 15, 1943). Dir. W.W. in Amer., Int. W.W.

CLARKE, Edwin Cameron, 215 Park Pl., Beaver Falls, Pa. (1948) Geneva Col., assoc. prof., acting dept. head, teach.; b. 1913; B.A., 1935, Geneva Col.; 1935-37, Princeton; summer, 1938, Univ. of Colorado; Fields 16, 1, 7. Res. National collective bargaining in pottery industry since advent of NIRA (doc. dis., Univ. of Pittsburgh).

CLARKE, Stephen Van Order, 96 Elm St., Montclair, N.J. (1948) Fed. Res. Bank of N.Y., econ., res.; b. 1919; A.B., 1941, A.M., 1942, Virginia; A.M., 1946, Harvard. Fields 2b, 7, 10.

CLAY, Sir Henry, Oxford, England. (1948) Nuffield Col., warden, dept. head, res. govt. serv., bus.; b. 1883; B.A., 1906, M.A., 1913, Univ. Col., Oxford; M. Com., 1926, Manchester; D.Sc. (Hon.), 1929, Cape Town. Fields 12, 4, 16. Pub. Economics, an introduction for general reader (1916), Problem of industrial relations (1929), Post-war unemployment problems (1929) (Macmillan, London).

CLAYDON, Arthur, Triple Cities Col., Dept. of Econ., 304 Lincoln Ave., Endicott, N.Y. (1945)

CLELAND, John Scott, 815 E. Broadway, Monmouth, Ill. (1919) Monmouth Col., dean, teach.; b. 1887; A.B., 1908, LL.D., 1947, Muskingum; A.M., 1909, Princeton; Ph.D., 1914, Pittsburgh. Fields 16, 1a, 17ab. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

CLEMEN, Rudolf Alexander, Edgerstoune Rd., Princeton, N.J. (1924)

CLEMENCE, Richard Vernon, 249 Tappan St., Brookline 46, Mass. (1941) Wellesley Col., asst. prof., teach., res.; b. 1910; Ph.B., 1934, M.A., 1936, Brown; A.M., 1940, Ph.D., 1948, Harvard. Fields 6, 5, lab. Doc. dis. Theory of economic maturity. Pub. "Modern economics and the introductory course" (with F. S. Doody), A.E.R., June, 1942; "Fiscal policy and business cycles," Mech. Eng., Apr., 1942; "Introductory economics in the junior college," Jr. Col. Jour., Mar., 1946. Res. Capitalist evolution. Dir. W.W. in Amer. Educa.

CLEMENS, EH Winston, Univ. of Maryland, Col. of Bus. and Pub. Admin., College Park, Md. (1935) Univ. of Maryland, prof., teach., res.; b. 1909; B.S., 1930, Virginia Poly. Inst.; M.S., 1934, Illinois; Ph.D., 1940, Wisconsin. Fields 13, 14a, 1a. Doc. dis. Public utility regulation in Wisconsin since 1931. Pub. "Price discrimination in decreasing cost industries," A.E.R., Dec., 1941; "Rate-making policies and practices of Public Service Commission of Wisconsin," Jour. of Land and Pub. Util. Econ., Aug., 1944; "Critical issue of depreciation in public utility valuation," So. Econ. Jour., Jan., 1943. Res. Public utility economics.

CLEMENS, Richard, Jr., 173 Westminster Rd., West Hempstead, N.Y. (1937) City of New York, high school teacher, teach., bus.; b. 1907; B.S., 1929, M.A., 1930, New York. Fields 7, 10, 9.

CLEVELAND, Alfred Saxton, Univ. of California, 113 South Hall, Berkeley, Calif. (1948) Univ. of California, lecturer, teach., res., bus.; b. 1913; A.B., 1935, Washington State Col.; M.B.A., 1939, Stanford; M.P.A., 1942, Ph.D., 1947, Harvard. Fields 12, 1a, 4ab. Doc. dis. Some political and economic aspects of organized industry. Pub. "NAM—spokesman for industry?" Harvard Bus. Rev., May, 1948. Res. Government and business.

CLEVELAND, William Charles, Indiana Univ., Dept. of Econ., Bloomington, Ind. (1922) Indiana Univ., assoc. prof., teach., res.; b. 1902; A.B., 1923, Beloit; Ph.D., 1938, Chicago. Fields 7, 6, 9. Doc. dis. investment policies as a factor in Chicago bank suspensions, 1929-1933; comparative ratio analysis study. Pub. "Monetary policies and organization for defense," in Economic problems of national defense (G. A. Steiner, editor) (Ind. Bus. Reports, 1941); "Monetary policies and

organization," in Economics of war (G. A. Steiner, editor) (Wiley, 1942); Economics, principles and problems (with Moffat, Christenson, and others) (Crowell, 4th ed., 1947). Res. Greek monetary developments, 1939-48.

CLEVINGER, (Mrs.) Clara Howard, 824 E. Patterson Ave., Kirksville, Mo. (1923)

CLEWORTH, Marc M., P. O. Box 165, Elgin, Ill. (1947)

CLINE, Denzel Cecil, 134 Kensington Rd., East Lansing, Mich. (1927) Michigan State Col., prof. of econ., teach., res., govt. serv.; b. 1903; A.B., 1925, M.A., 1926, Univ. of Washington; Ph.D., 1933, Princeton. Fields 9, 7, 16. Doc. dis. Finances of state government of New Jersey. Pub. Money, credit, and finance (Heath, 1937, rev., 1947); "Fiscal pattern of Michigan townships," Bul. of Nat. Tax Assoc., Dec., 1945, Jan., 1946, Michigan tax trends (Michigan State Col. Agric. Exp. Sta., 1940). Res. State-local fiscal relations in selected states; fiscal policy. Dir. Lead. in Educa.

CLORETY, Joseph A., Jr., 8002 Newell Ct., Silver Spring, Md. (1943) Amer. Vet. Com., nat. secy., bus. res., edit.; b. 1912; A.B., 1942, George Washington; 1946-47, American. Fields 16, 4ab, 12b.

CLOSE, James A., Syracuse Univ., Col. of Bus. Admin., Syracuse 10, N.Y. (1941) Syracuse Univ., Col. of Bus. Admin., asso. prof. of fin., teach.; b. 1905; A.B., 1929, Yale; M.B.A., 1931, Harvard; Ph.D., 1945, Michigan. Field 8ab. Doc. dis. Some aspects of financial history of Anaconda Copper Mining Co. Pub. An appraisal of GI life insurance (Colonial Pub. Co., Columbia, Mo., 1947). Res. Investments; convertible preferred stocks.

CLOUGH, Shepard Bancroft, Columbia Univ., New York 27, N.Y. (1943) Columbia Univ., prof., teach., res., govt. serv., bus.; b. 1901; A.B., 1923, Colgate; 1923-24, Sorbonne and Univ. of Heidelberg; Ph.D., 1930, Columbia. Fields 2, 14c. Doc. dis. Flemish movement in Belgium (Richard R. Smith, 1930). Pub. France, 1789-1939, a study in national economics (Scribners, 1940); Economic history of Europe (with C. W. Cole) (Heath, 1941); A century of American life insurance (Columbia Univ. Press, 1943). Res. Economic aspect of rise and fall of civilizations. Dir. W.W. in Amer., in East. Dir. of Schol., Int. W.W., Who Knows—and What.

CLOVER, Vernon Thomas, 2515 31st St., Lubbock, Tex. (1942) Texas Tech. Col., assoc. prof. of econ., teach., res.; b. 1910; B.S., 1934, M.S., 1935, Ft. Hays Kansas State Col.; Ph.D., 1937, Univ. of Colorado. Fields 9, 11, 16. Doc. dis. Some economic aspects of unemployment compensation provisions of Social Security Act of 1935. Pub. Employees' share of national income, 1929-41 (1943), Economic and sociological study of a Kansas community (1945), Trego County real estate assessment plan (1946) (Ft. Hays Kansas State Col. Studies). Res. Relative importance of impulse buying in different types of retail stores.

CLYMAN, Bernard, Univ. of Delaware, Econ. Dept., Newark, Del. (1942) Univ. of Delaware, instr. in econ., teach.; b. 1916; B.S., 1939, Temple; 1939-42; 1947, Pennsylvania; 1943-44, American. Fields 1a, 10, 5. Pub. "Problems of international comparisons of income and product" (with M. A. Copeland and J. Jacobson), in Studies in income and wealth (Nat. Bur. of Econ. Res., 1947).

COASE, Ronald Harry, London School of Econ., Houghton St., Aldwych, London, W.C.2, England. (1946)

*COBB, Thomas Clinton, 307 W. Nevada St., Urbana, Ill. (1947) Univ. of Illinois, asst., teach.; b. 1920; B.S., 1941, 1946-48, Illinois; M.A., 1947, Miami Univ. Fields 16, 1a, 3a. Res. Economic implications of industry-wide collective bargaining.

COBB, William Crosby, Houghton Mifflin Co., 2 Park St., Boston 7, Mass. (1940) Houghton Mifflin Co., col. edit., dept. head, edit.; b. 1902; A.B., 1922, M.A., 1923, Vanderbilt.

COBLENTZ, William Kraemer, 1201 California St., San Francisco 9, Calif. (1946) Heller, Ehrman, White and McAuliffe, attorney, bus.; b. 1922; B.A., 1943, California; LL.B., 1947, Yale.

Fields 4, 10, 16. Pub. "A case against pleading," *Lawyers Guild Rev.*, Mar., 1948.

COCHRAN, Clay Lee, 301 Bingham Hall, Chapel Hill, N.C. (1948) Univ. of North Carolina, instr.; govt. serv., teach., res.; b. 1914; 1932-34, Amarillo Jr. Col.; B.A., M.A., 1938, Texas; 1947-48, North Carolina. Fields 16, 17ab, 15abd.

COCHRAN, George Henry, Kent State Univ., Dept. of Econ., Kent, Ohio. (1945)

COCHRAN, Harry Alvan, Temple Univ., Philadelphia 22, Pa. (1948) Temple Univ., dean, teach.; b. 1890; B.S., 1916, Pittsburgh; M.S., 1924, Ed.D., 1930, Temple; LL.D., 1936, LaSalle Col. Fields 8a, 11a, Dir. W.W. in Amer. Lead. in Educa.

*COCHRAN, John Arthur, 351 Harvard St., Cambridge, Mass. (1948) Harvard Univ., teach. fellow; b. 1921; A.B., 1943, Drake; 1945, Univ. of Exeter, England; A.M., 1948, Harvard. Fields 7, 6, 12. Res. Federal Reserve System and business fluctuations (doc. dis.).

COCHRAN, Thomas Childs, New York Univ., New York 3, N.Y. (1947) New York Univ., prof. or asst., res., teach., ed.; b. 1902, D.S., 1923, M.A., 1925, New York; Ph.D., 1930, Pennsylvania. Fields 2a, 14a, 11a. Doc. dis. New York in the confederation (Univ. of Pennsylvania Press, 1932). Pub. Age of enterprise (Macmillan, 1942); Pabst Brewing Company: the history of an American business (N.Y. Univ. Press, 1948). Res. The thinking of nineteenth century railroad entrepreneurs. Dir. W.W. in Amer., Dir. of Schol.

CODDINGTON, Herbert, 88-12 189th St., Hollis 7, N.Y. (1948) New York Univ., instr., teach.; b. 1909; A.B., 1947, Washington Square Col.; 1947-48, Grad. School of Arts and Sci. Fields 13b, 16, 1.

*CODY, Peter Malcolm, 38 Armoryville, 74 Central Ave., New Haven, Conn. (1947)

COFFMAN, Ray Harold, 3048 S. Buchanan St., Apt. B2, Arlington, Va. (1946)

COGEN, Charles, 1555 Odell St., Bronx, New York 62, N.Y. (1938) Bronx High School of Science, teach.; b. 1903; A.B., 1924, Cornell Univ.; LL.B., 1927, Fordham; M.A., 1931, Columbia. Fields 16, 1ab, 4. Pub. Review outline of economics for advanced students (1940).

COHAN, Avery Berlow, c/o FA Mail Room, Dept. of State, Washington, D.C. (1941) U.S. For. Serv., attache, govt. serv., res.; b. 1915; A.B., 1934, Cornell Univ.; A.M., 1942, Columbia. Fields 12b, 14, 1a. Pub. Cartels (N.A.M., 1945); Railway traffic expansion and use of resources in World War II (with T. Hultgren) (Nat. Bur. of Econ. Res., 1944). Res. Transportation resources in countries producing "strategic materials"; nature of competition (doc. dis.).

*COHEN, Daniel, 171 Milford St., Brooklyn 8, N.Y. (1948) Dept. of Labor, Bur. of Labor Statis., econ., govt. serv., res., teach.; b. 1923; 1940-43, Brooklyn Col.; B.A., 1947, 1947-48, New York. Fields 16, 10, 2. Res. Institutional background of Japanese industrial labor (master's thesis).

*COHEN, Eugene Sherman, 309 Allis Ct., E. Colvin St., Syracuse 10, N.Y. (1948) Syracuse Univ., student; b. 1925; A.B., 1948, Syracuse. Fields 10, 12a, 17d.

COHEN, Frank, 88 Central Pk., W., New York, N.Y. (1939)

COHEN, (Mrs.) Hannah L., 225 Eastern Pkwy., Brooklyn, N.Y. (1944)

COHEN, Harry L., 1114 E. 38th St., Brooklyn 10, N.Y. (1922) James Madison High School, teach. of econ., teach.; b. 1899; A.B., 1920, M.B.A., 1921, City of New York. Fields 11, 7, 9.

COHEN, Jacob, Indiana Univ., Dept. of Econ., Bloomington, Ind. (1946) Indiana Univ., instr. in econ., teach., res.; b. 1918; B.A., 1940, Manitoba; A.M., 1941, Cincinnati; 1942-46, Chicago. Fields 9, 7, 1a. Res. Interest saving techniques on public debt (doc. dis.).

COHEN, Jerome B., 231 E. 76th St., New York 21, N.Y. (1943) Col. of City of New York, asst. prof. of econ., teach., res., bus.; b. 1915; B.S.S., 1934, City of New York; M.A., 1935, Ph.D., 1947, Columbia. Fields 2b, 9, 7. Doc. dis. Japanese war economy, 1937-45 (Inst. of Pacific Rela., 1948).

Pub. "Misuse of statistics," *Jour. of Amer. Statis. Assoc.*, Dec., 1938; "Japanese war economy, 1940-45," *Far Eastern Survey*, Dec., 1946; "Occupation of Japan," *Pacific Affairs*, Sept., 1948.

*COHEN, Joseph, 420 Melrose St., Chicago 13, Ill. (1948)

COHEN, Lawrence B., 411 W. 114th St., New York 25, N.Y. (1948)

COHEN, Martin Alvin, 5313 S. Kimbark, Chicago 15, Ill. (1943) Illinois Inst. of Tech., instr.; Aco Construction Co., personnel dir.; bus., teach.; b. 1915; B.S., 1936, Illinois Inst. of Tech.; A.M., 1941, Chicago. Fields 16, 2a, 14b.

*COHEN, Mischa, 801 Aiken, Peoria, Ill. (1948)

COHEN, Morris, 3033 16th St., N.W., Washington 9, D.C. (1942) Dept. of Com., Econ. Div. Office of Bus. Econ., govt. serv., res.; b. 1919; B.A., 1939, Pennsylvania; M.A., 1941, Pennsylvania State Col. Fields 5, 6, 9. Pub. "Food consumption, expenditures and prices," *Survey of Cur. Bus.*, Jan., 1948; "War and changes in state and federal tax revenue (with F. H. Mueller) *Taxos*, Sept., 1942; "Taxation of water transportation companies," *Carrier taxation* (House Doc. No. 160, 79th Cong., Apr., 1945). Res. Trends in postwar consumption expenditures and personal saving.

*COHEN, Paul C., 731 10th St., Wilmette, Ill. (1948)

COHEN, Sam L., 41 Broad St., New York, N.Y. (1912)

*COHEN, Sanford, 12424 Tuscora St., Cleveland, Ohio. (1946) Ohio State Univ., asst. instr. of econ., teach.; b. 1920; B.A., 1943, M.A., 1947, Ohio State. Fields 16, 9, 1ab. Res. State labor legislation affecting conduct and organization of labor unions.

COHEN, Wilbur Joseph, 8703 Burdette Rd., Bethesda 14, Md. (1936) Soc. Sec. Admin., Bur. of Res. and Statis., asst. dir., govt. serv., res.; b. 1913; Ph.B., 1934, Wisconsin. Fields 17abc, 9, 5. Pub. War and post-war social security (editor and contrib.) (Amer. Coun. on Pub. Affairs); Unemployment insurance and agricultural labor in Great Britain (Soc. Sci. Res. Coun., 1940); "Foreign experience in social insurance contributions for agricultural and domestic workers," *Soc. Sec. Bul.*, Feb., 1945. Res. Social security in Brazil; permanent disability insurance for U.S.; social security for children. Dir. Dir. of Schol.

*COHN, Stanley H., 1509 E. 60th St., Chicago 37, Ill. (1947)

COIL, Everett Johnston, 800 21st St., N.W., Washington 6, D.C. (1930)

COIT, Charles G., 23 W. Cedar St., Boston 8, Mass. (1945)

COIT, Eleanor Gwinnell, 1776 Broadway, New York 19, N.Y. (1930) Amer. Labor Educa. Serv., Inc., dir., teach.; b. 1894; B.A., 1916, Smith Col.; M.A., 1920, Columbia. Field 16. Pub. "Progressive education at work," "Selected bibliography on workers' education" (co-author), in *Workers' education in U.S.* (Harper, 1941); Government support of workers' education—with special reference to Denmark and Sweden (Amer. Labor Educa. Serv., 1940); "Workers' education," *Handbook of Adult Educa. in U.S.* (Inst. of Adult Educa.), 1948. Dir. Lead. in Educa., W.W. in Labor.

COKER, Joseph Daniel, 16 Lee Blvd., Falls Church, Va. (1947)

COLBERG, Marshall Rudolph, 3900 Hamilton St., Apt. K-2, Hyattsville, Md. (1940) U.S. Dept. of Air Force, program anal., govt. serv.; b. 1913; A.B., 1934, A.M., 1938, Chicago; 1937-40, Michigan. Fields 14ab, 1a, 3. Pub. Value and distribution theory of N.W. Senior (A.M. thesis) (Univ. of Chicago, Mar., 1938); "Monopoly prices under joint costs: fixed proportions," *J.P.E.*, Feb., 1941. Res. Federal control of construction following World War II (doc. dis.).

COLBJORNSEN, Ole, c/o Norwegian Embassy, Washington 7, D.C. (1944)

COLBURN, Lawrence Donaldson, 4219 Locust St., Kansas City 4, Mo. (1946) Consumers Coop.

Asso., res. econ., dept. head; b. 1917; B.S., 1939, Kansas State Col. Fields 11b, 3c, 15bd.

COLBY, Benjamin, 722 Jackson Pl., Washington 6, D.C. (1943) Brookings Inst., asst. to pres., dept. head, res., edit.; b. 1901.

COLBY, Kenneth Blanchard, Univis Lens Co., 401 Leo St., Dayton 1, Ohio. (1946) Univis Lens Co., mkt. anal., bus.; b. 1917; B.S., 1939, 1940-41, 1947, Northwestern. Fields 3ac, 14ab, 8b.

COLE, Arthur Harrison, Box 37, Cambridge 38, Mass. (1913) Harvard Univ., prof., res.; b. 1889; A.B., 1911, Bowdoin Col.; A.M., 1913, Ph.D., 1916, Harvard. Fields 2a, 4a, 1b. Doc. dis. Wool manufacture in U.S. to 1830. Pub. American wool manufacture (1926), Wholesale commodity prices in the U.S. 1700-1861 (1938), Fluctuations in American business, 1790-1860 (with W. B. Smith) (1935) (Harvard Univ. Press). Dir. W.W. in Amer., Lead. in Educa.

COLE, Charles Wolsey, Amherst Col., Amherst, Mass. (1935) Amherst Col., pres.; b. 1906; A.B., 1927, L.H.D. (Hon.), 1942, Amherst; A.M., 1928, Ph.D., 1931, Columbia; LL.D., 1946, Wagner Col., Wesleyan Univ., Williams Col. Field 2. Doc. dis. French mercantilist doctrines before Colbert. Pub. Colbert and a century of French mercantilism (1939); Economic history of Europe (with S. B. Clough) (1941); French mercantilism, 1688-1700 (1943). Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.

COLE, David Maurice, 405 10th St., N.E., Washington 2, D.C. (1941) Univ. of Maryland; B.A., 1937, M.B.A., 1939, Univ. of Washington. Fields 7, 8ab, 1a.

COLE, George J., 6611 Middleton St., Huntington Park, Calif. (1944)

COLE, Harrison Wells, 101-12 Ascan Ave., Forest Hills, L.I., N.Y. (1946) Johns-Manville Co., anal., bus.; b. 1910; B.A., 1932, Harvard. Fields 3b, 6, 1c. Pub. Common sense of commodity price forecasting (Econometric Inst., 1941). Res. Approach to long-term sales forecasting (master's thesis, New York Univ.).

COLE, Philip Gillett, Shagbark Rd., Darien, Conn. (1942)

COLEMAN, Floyd Basil Thomas, 435 W. 119th St., New York, N.Y. (1935)

COLEMAN, George W., Miss. Valley Trust Co., St. Louis 2, Mo. (1944) Miss. Valley Trust Co., econ., bus.; b. 1912; B.A., 1934, Arizona; M.A., 1935, Ph.D., 1939, Washington Univ. Fields 7, 8, 1a. Doc. dis. Bank credit and capital formation.

COLEMAN, John Royston, 5528 Kenwood Ave., Chicago 37, Ill. (1947) Univ. of Chicago, Ind. Rela. Center, res. asst., res.; b. 1921; B.A., 1943, Univ. of Toronto; 1946-48, Chicago. Fields 16, 1. Res. Constructive union-management relationships in U.S. and Great Britain.

COLEMAN, Raymond W., West Virginia Univ., Morgantown, W.Va. (1936) West Virginia Univ., prof., dept. head, teach., res. b. 1901; B.B.A., 1923, M.B.A., 1926, Univ. of Washington; Ph.D., 1935, Pittsburgh. Fields 11a, 1, 3. Doc. dis. Pledged revenue for government bonds (A.E.R., Dec., 1936). Pub. Elements of accounting (McGraw-Hill, 1941); "Government bonds and the balanced budget," Harvard Bus. Rev., Autumn, 1941.

COLEN, Donald J., 12 Bellingham Lane, Great Neck, L.I., N.Y. (1944)

COLGAN, Virginia Elizabeth, 165 Broadway, Room 1200, New York 6, N.Y. (1941) Life Ins. Asso. of Amer., statis., dept. head, res.; b. 1902; A.B., 1924, Barnard Col., Columbia. Fields 8bc, 3a, 11ac.

COLIN, David H., New York Univ., Dept. of Econ., Washington Sq., New York, N.Y. (1942)

COLLADO, Emilio Gabriel, Old Westbury Rd., East Hills, Roslyn, N.Y. (1932) Standard Oil Co. of N.J. for. exch. mgr., bus.; b. 1910; B.S., 1931, M.I.T.; A.M., 1934, Ph.D., 1936, Harvard. Fields 7, 10. Dir. W.W. in Amer., Int. W.W.

COLLIER, William Wallace, State Tax Com., Salem, Ore. (1947) Ore. State Tax Com., res. dir., dept. head, res.; b. 1918; A.B., 1942, California. Fields 9, 1a, 3a.

COLLINS, Geoffrey Philip, Oklahoma A. and M. Col., Dept. of Agric. Econ., Stillwater, Okla. (1943) Oklahoma A. and M. Col., assoc. prof., teach., res.; b. 1905; B.S.A., 1928, Univ. of Toronto; M.S., 1943, Illinois. Fields 15b, 1ab, 7. Res. Livestock price relationships; analysis of functioning of federal intermediate credit system in Oklahoma and relationship to other financing agencies.

COLLINS, James Edmond, Univ. of Santa Clara, Santa Clara, Calif. 1948 Univ. of Santa Clara, asst. prof., teach.; b. 1917; A.B., 1940, 1940-41, Syracuse; 1944-46, Stanford. Fields 13b, 1, 9.

*COLLINS, Robert T., 160 N. Mt. Vernon, San Bernardino, Calif. (1947)

COLLINS, William Joseph, St. Ambrose Col., Davenport, Iowa. (1936) St. Ambrose Col., prof., dept. head, teach., res.; b. 1896; A.B., 1925, St. Ambrose Col.; S.T.B., 1928, M.A., 1929, Catholic Univ.; Ph.D., 1942, Iowa. Fields 1ab, 16, 9. Doc. dis. Administration of old age assistance in Iowa (Iowa Jour. of Hist. and Polit., Jan., 1943). Pub. "Agricultural credit agencies," Mar., Apr., 1928, "Farmer's campaign for credit," May, 1928, Catholic Rural Life.

COLM, Gerhard, 1615 N. Lexington St., Arlington, Va. (1934) Coun. of Econ. Advisers, Exec. Office of Pres., econ.; George Washington Univ., prof. lecturer; New School for Soc. Res. (on leave); govt. serv., teach.; b. 1897; Dr. rer. pol., 1921, Freiburg Univ. Fields 9, 5, 4a. Doc. dis. Contribution to history and sociology of revolt in Ruhr territory, 1920 (Baediker, Essen, 1921). Pub. Economics of government expenditures (J. C. B. Mohr, Tübingen, 1927); Economic consequences of recent American tax policy (with Lehmann) (New School for Soc. Res., 1938); Who pays the taxes? (with Tarasov) (T.N.E.C., 1940). Dir. Dir. of Schol., Int. W.W., W.W. in East.

COLTON, (Mrs.) Shirley B., 2965 Valentine Ave., Bronx, New York 58, N.Y. (1945)

COMER, George P., Dept. of Justice, Antitrust Div., Washington, D.C. (1948)

COMINS, Harold Northend, 6 Park Ave., Wakefield, Mass. (1935)

COMISH, Newel Howland, Univ. of Oregon, School of Bus. Admin., Eugene, Ore. (1918) Univ. of Oregon, prof. of bus. admin., teach., res.; b. 1888; B.S., 1911, Utah State Col.; 1913-14, Chicago; M.S., 1915, Ph.D., 1929, Wisconsin. Fields 11b, 4c, 17d. Doc. dis. Development of consumption into an organized body of thought. Pub. Standard of living (Macmillan, 1923); Co-operative marketing of agricultural products (Appleton, 1929); Small scale retailing (Binford & Mort, 1946, 2nd ed., 1948). Res. Why customers quit trading at stores in various retail classifications. Dir. W.W. in Amer., in Educa.

COMPTON, Wilson Martindale, Pullman, Wash. (1919) Washington State Col., pres.; b. 1890; A.B., 1911, M.A., 1912, LL.D., 1935, Col. of Wooster; Ph.D., 1915, Princeton; LL.B., 1917, Hamilton. Fields 14ab, 10, 15abc. Doc. dis. Organization of lumber industry (Amer. Lumberman Pub. Co., Chicago, 1916). Pub. Legal aspects of trade associations; Forest conservation: a task in engineering. Dir. W.W. in Amer., Lead. in Educa.

COMSTOCK, Alzada, Mount Holyoke Col., South Hadley, Mass. (1930)

COMSTOCK, Edward Garfield, 6 Midland Gardens, Bronxville 8, N.Y. (1941) Newell Emmett Co., account exec., bus., res.; b. 1907. Fields 11b, 3c, 6.

CONANT, Luther, 46 Shepard St., Cambridge 38, Mass. (1915) Retired; b. 1872; B.S., 1895, M.I.T. Fields 12a, 8b, 16. Pub. Critical analysis of industrial pension systems (Macmillan, 1922); "Industrial consolidations in U.S.," Jour. of Amer. Statis. Asso.

CONDLIFFE, John Bell, Univ. of California, Inst. of Econ., Berkeley 4, Calif. (1941) Univ. of California, prof. of econ., teach., res.; b. 1891; B.A., 1914, M.A., 1915, D.Sc., 1928, Canterbury Univ. Col.; 1919-20, Gonville and Caius Col., Cambridge; LL.D., 1942, Occidental Col. Fields 10, 2a, 1b. Doc. dis. Industrial revolution in Far East (Econ.

Record). Pub. World economic survey (League of Nations, 1931-37, annually); Reconstruction of world trade (Norton, 1940); New Zealand in making (Chicago Univ. Press, 1930). Res. Commerce of nations. Dir. W.W. in Amer. Int. W.W.

CONDOIDE, Mikhail, 188 W. 10th Ave., Columbus 1, Ohio. (1937) Ohio State Univ., res. asso., instr., res., teach.; M.A., 1944, Ohio State. Fields 10, 2, 4a. Pub. Russian-American trade (Bur. of Bus. Res., Ohio State Univ., 1946); Russian American trade (Citizens Conf. on Int. Econ. Union, 1947); "Secrets of Russian economics" (Vista, New York, 1946). Res. International trade and foreign economic policies of Soviet Russia (doc. dis.).

CONKLING, Roger Linton, 4036 N.E., 69th Ave., Portland 13, Ore. (1947) Bonneville Power Admin., asst. to power mgr.; Ore. State System of Higher Education, instr. in bus. admin.; govt. serv., teach., res.; b. 1917; B.B.A., 1941, Northwestern; M.A., 1948, Oregon. Fields 13a, 11a, 1a. Pub. Survey and analysis of development of organizational framework and related personnel structure of Bonneville Power Administration (Bonneville Power Admin., June, 1948).

CONLEY, Garland B., 2854 Connecticut Ave., N.W., Apt. 10, Washington 8, D.C. (1947)

CONLEY, Helen, 708 Fairfield Manor, Fort Wayne 6, Ind. (1947)

CONLEY, William Henry, 820 N. Michigan Ave., Chicago 11, Ill. (1931) Loyola Univ., School of Com., dean; b. 1907; B.S.C., 1930, A.M., 1935, Loyola; M.B.A., 1932, Ph.D., 1947, Northwestern. Fields 9, 11ac, 1b. Doc. dis. An analysis of cost reduction in junior colleges. Pub. Introductory business mathematics (Holt, 1939). Res. Financial requirements of post high school education. Dir. Lead. in Educa.

CONN, Harland De Witt, American Univ. at Cairo, 113 Sharia Kasr el-Aini, Cairo, Egypt. (1941)

CONNOR, John, Loyola Univ., New Orleans 15, La. (1946)

CONNORS, Robert G., St. Louis Univ., 3674 Lindell Blvd., St. Louis 8, Mo. (1947)

CONOVER, Harry, American Embassy, Oslo, Norway. (1944) For. Serv. of the U.S., govt. serv.; b. 1913; B.S., 1934, New York; 1934-36, California. Fields 12, 10, 4.

CONRAD, (Mrs.) Mattie Wallace, 2032 Belmont Rd., Washington 9, D.C. (1943) U.S. Tariff Com., Metals Div., commodity spec., govt. serv.; b. 1889.

CONRAD, William E. F., 7404 Glenside Dr., Takoma Park 12, Md. (1939)

CONSLE, Robert Elliott, 11 Jay St., Canton, N.Y. (1947) St. Lawrence Univ., asso. prof., teach.; b. 1916; B.A., 1938, Hobart Col.; M.B.A., 1940, Harvard. Fields 8, 11ac, 12. Pub. "Advent of merit rating in Canada," C.J.E., Spring, 1941.

CONSTANTIN, James Alford, Box 702, University, Ala. (1947) Univ. of Alabama, asst. prof. of fin., teach., res.; b. 1922; B.B.A., 1943, M.B.A., 1944, 1945-46, Texas. Fields 13b, 7, 12b. Res. Problems in international aviation (doc. dis.).

CONVERSE, Paul D., 402 Pennsylvania Ave., Urbana, Ill. (1915) Univ. of Illinois, div. head, teach., res.; B.A., 1913, M.A., 1914, LL.D., 1944, Washington and Lee. Fields 11b, 12b, 17d. Dir. W.W. in Amer., North Amer. Authors, in Soc. Sci., Int. W.W.

*CONWAY, Lawrence Vincent, 215 David Kinley Hall, Urbana, Ill. (1948) Univ. of Illinois, Col. of Com. and Bus. Admin., asst., teach.; b. 1922; B.S., 1947, M.S., 1948, Illinois. Fields 1be, 7, 8b.

CONWELL, Ralph Edwards, Univ. of Wyoming, Dept. of Econ. and Soc., Laramie, Wyo. (1938) Univ. of Wyoming, Dept. of Econ. and Soc., prof., dept. head; b. 1902; A.B., 1924, LL.B., 1928, Wyoming; M.A., 1929, Colorado; 1931-37, Chicago, California, New York. Fields 7, 17d.

COOGAN, James F., 2023 Kalarana Rd., N.W., Washington 9, D.C. (1948) Georgetown Univ., teach.; b. 1918; A.B., 1942, M.A., 1947, Harvard.

Fields 4a, 15b, 12a. Res. Soviet marketing institutions.

COOK, Franklin Henry, 523 Fairway Dr., State College, Pa. (1946) Pennsylvania State Col., Dept. of Econ., asso. prof., teach., res.; b. 1911; B.A., 1933, Bucknell; LL.B., 1936, Duke; M.A., 1940, Pennsylvania State Col. Fields 13a, 11c. Pub. "History of rate-determination under due process clauses," Univ. of Chicago Law Rev., June, 1944; "Abandoned property and the rate base," July, 1942, "Sale as a test of income realization," Dec., 1939, Acctg. Rev. Res. Significant ratios for electric power companies possessing less than and in excess of one million dollars operating revenue; costs, demand, revenues, plant utilization; government and business.

COOK, George Clayton, 224 E. 179th St., New York 57, N.Y. (1948) Barret Div., Allied Chemical and Dye Corp., statis., res., edit.; b. 1917; B.A., 1940, Brooklyn Col.; A.M., 1948, Columbia. Fields 11b, 14a, 6. Res. Plastics industry; nitrogen industry.

COOK, J. Allan, City Col. of New York, 430 W. 50th St., New York, N.Y. (1947)

*COOK, Lorne Douglas, 804 Jerome St., Ypsilanti, Mich. (1948) Univ. of Mich., student; b. 1917; 1936-39, Chicago; B.A., 1948, Michigan.

COOK, Roy Clyde, 1731 D St., N.E., Washington 2, D.C. (1941) Dept. of Justice, Antitrust Div., econ., govt. serv., res.; b. 1909; A.B., 1931, South Carolina; A.M., 1941, George Washington Univ. Fields 14, 12, 15abcd. Pub. Control of petroleum industry by major oil companies (TNEC Mono. 39, 1941); Rejoinder to review and criticism of TNEC Mono. 39 (TNEC Mono. 39A, 1941).

*COOKE, Blaine M., Univ. of Minnesota, Room 308, Vincent Hall, Minneapolis, Minn. (1947)

COOKE, Gilbert William, Bowling Green State Univ., Bowling Green, Ohio. (1931) Bowling Green State Univ., prof. of bus. admin., teach., res.; b. 1899; 1919-21, Rochester Jr. Col.; B.S., 1923, M.A., 1926, Minnesota; Ph.D., 1936, Wisconsin. Fields 8ab, 9, 11ac. Doc. dis. North Dakota industrial program (J.P.E., Feb., 1938; Jour. of Bus., July, 1938; Jour. of Land and Pub. Util. Econ., Aug., 1938). Pub. "Savings deposits in mutual and non-mutual banks, 1911-40," Jour. of Bus., July, 1943; "Laboratory method of accounting instruction," Balance Sheet, Jan., 1947; An introductory survey of business management (Bowling Green State Univ., June, 1947). Res. Introductory survey of business management (revision).

*COOLIDGE, Lawrence D., 125 W. 86th St., New York 24, N.Y. (1948)

COOLSEN, Frank Gordon, Rensselaer Poly. Inst., Troy, N.Y. (1946) Rensselaer Poly. Inst., asst. prof., teach., res.; b. 1915; B.S., 1937, Northwestern; M.S., 1942, Illinois. Fields 11b, 12a, 1a. Pub. "Pioneers in development of advertising," Jour. of Mktg., July, 1947. Res. Marketing of industrial goods.

COOMBS, Philip Hall, Amherst Col., Amherst, Mass. (1939) Amherst Col., asso. prof. of econ., teach.; b. 1915; A.B., 1937, Amherst Col.; 1937-39, Chicago; 1940-41 Brookings. Fields 12, 1a, 14. Res. Political-economic analysis of economic stabilization program of World War II with focus on factors determining formulation and execution of public economic policy.

COONS, Alvin Emery, Ohio State Univ., Dept. of Econ., Columbus 10, Ohio. (1947) Ohio State Univ., asst. prof.; b. 1908; B.A., 1932, Iowa; M.S., 1939, Ph.D., 1946, Iowa State Col.; 1940-46, Chicago. Fields 17d, 15a, 4c. Doc. dis. Certain conflicts in U.S. agricultural and foreign trade policy. Res. Organization, division of authority and responsibility, and executive compensation in four regional co-operatives.

COONS, Arthur Gardiner, 1852 Campus Rd., Los Angeles 41, Calif. (1920) Occidental Col., pres.; b. 1900; A.B., 1920, Occidental Col.; M.A., 1922, Ph.D., 1927, Pennsylvania; LL.D., 1946, Lewis and Clark Col. Fields 10, 4ab, 1b. Doc. dis. Foreign public debt of China (Univ. of Pennsylvania Press, 1930). Pub. Economic reconstruction.

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- COOPER, Chester Lawrence, 6301 16th St., N.W., Washington 11, D.C. (1942) Fed. govt., econ. govt. serv.; b. 1917; B.S., 1939, M.B.A., 1940, New York. Fields 15e, 10, 1a. Pub. Case book in public utility finance (collab.) (New York Univ., 1940); "How fast are our cities growing?" Nat. Munic. Rev., 1942. Res. Review of federal housing policy since V-J Day.
- COOPER, Edward N., 1102 Mississippi Ave., S.E., Washington 20, D.C. (1943)
- COOPER, Hobart S., 4113 Russell Ave., Mt. Rainier, Md. (1941)
- COOPER, Howard Earl, Johns Hopkins Univ., Baltimore, Md. (1940)
- COOPER, Lyle Winston, United Packinghouse Workers, 205 W. Wacker Dr., Room 515, Chicago 49, Ill. (1947) United Packinghouse Workers of Amer., C.I.O. res. dir., res.; b. 1895; B.A., 1918, Colorado Col.; 1920-21, 1922, California; 1923, Wisconsin; Ph.D., 1925, Chicago. Fields 16, 1, 17ad. Doc. dis. Economic policies and theories of American Federation of Labor. Pub. "American Federation of Labor and the intellectuals," Polit. Sci. Quar., Sept., 1928; "Labor movement in prosperity and depression," A.E.R., Dec., 1932; Written trade agreement in collective bargaining (NLRB, Nov., 1939). Res. Influences affecting production and market for labor in meat packing industry.
- COOPER, Orah Pomerance (Mrs. Chester L.), 6301 16th St., N.W., Washington 11, D.C. (1942) B. 1917; B.A., 1939, Hunter; M.A., 1940, Columbia.
- COOPER, Vernon, Eastern Montana Normal School, Billings, Mont. (1939)
- COOPER, William W., Carnegie Inst. of Tech., Pittsburgh 13, Pa. (1947) Carnegie Inst. of Tech., prof.; U.S. Bur. of Budget, consult.; Econ. Coop. Admin., consult. and spec. asst. to controller; teach., res., govt. serv.; b. 1914; A.B., 1938, Chicago; 1940-42, Columbia. Fields 1ac, 3, 11c. Pub. "Some implications of program for full employment," Polit. Sci. Quar., June, 1948; "Accounting statistics," in Government statistics for business use (Wiley, 1945); "Costs, prices and profits: accounting in the war program," Acctg. Rev., 1945. Res. Government financing of business during the war; economic control of operations (doc. dis.). Dir. Who Knows—and What.
- COPELAND, John, 2708 Cathedral Ave., N.W., Washington 8, D.C. (1946)
- COPELAND, Melvin Thomas, Harvard Grad. School of Bus. Admin., Boston 63, Mass. (1909) Harvard Univ., prof., res., teach., bus.; b. 1884; A.B., 1906, S.D. (Hon.), 1931, Bowdoin Col.; A.M., 1907, Ph.D., 1910, Harvard. Field 11ab. Doc. dis. Cotton manufacturing industry of U.S. Pub. Board of directors and business management (Harvard Bus. School, Div. of Res., 1947); Principles of merchandising (A. W. Shaw, 1924); Problems in marketing (McGraw-Hill, 1920). Dir. W.W. in Amer.
- COPELAND, Morris Albert, 3752 Oliver St., N.W., Washington 15, D.C. (1921) Bd. of Gov. of Fed. Res. System, spec. consult.; res., teach.; b. 1895; A.B., 1917, Amherst Col.; Ph.D., 1921, Chicago. Fields 1a, 5, 6. Pub. "Economic theory and natural-science point of view," Mar., 1931, "Business stabilization by agreement," June, 1944, A.E.R.; "Competing products and monopolistic competition," Q.J.E., Nov., 1940. Res. Who controls flows of money? Dir. W.W. in Amer., Dir. of Schol.
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- CORBETT, James Francis, 76 79th St., Brooklyn 9, N.Y. (1932) Manual Training High School, Soc. Studies Dept., chmn., teach., res.; b. 1904; B.S., 1925, City of New York; M.A., 1930, New York. Fields 12, 16, 17d. Pub. Modern economics (with M. Colvin) (Macmillan, 1940). Res. National study of teaching of contemporary affairs.
- CORDERO, Rafael de J., Auditor of Puerto Rico, San Juan, P.R. (1939)
- COREY, Cyrus Stanley, 305 Highland Ave., Kent, Ohio. (1935) Kent State Univ., prof., teach., res.; b. 1908; B.A., 1928, Colby Col.; M.A., 1931, Ph.D., 1933, Illinois. Fields 9, 7, 1a. Doc. dis. Supreme Court and state taxation of interstate commerce, Dir. Dir. of Schol.
- COREY, Hibbert Dell, Col. of William and Mary, Dept. of Econ., Williamsburg, Va. (1940)
- CORNISH, Robert Sanford, State Teachers Col., Nacogdoches, Tex. (1942)
- CORTNEY, Philip, 410 Park Ave., New York 22, N.Y. (1944)
- CORSON, William R., 533 Alhambra Circle, Coral Gables, Fla. (1943)
- COSSON, Clarence, 1136 Des Moines Bldg., Des Moines 9, Iowa. (1927) Cosson, Stevens, Hauge & Cosson, partner, bus.; b. 1906; A.B., 1927, Iowa; LL.B., 1930, Harvard.
- COSTANZO, Gesualdo N., 4507 S. 34th St., Arlington, Va. (1946) Dept. of State, div. asst.; Georgetown Univ., lecturer; govt. serv.; b. 1916; B.A., 1937, Birmingham Southern Col.; M.A., 1940, Ph.D., 1941, Virginia; 1939-40, Brookings. Fields 10, 9, 7. Doc. dis. Italian monetary policy under Fascist regime. Pub. Nazi Europe and world trade (asso. author) (Brookings Inst., 1941).
- COTA, Louise Schwarz (Mrs. Norman D., Jr.), 1943 N. Summit Ave., Milwaukee 2, Wis. (1947) B. 1924; B.A., 1945, Connecticut Col. Fields 10, 4, 16.
- COTTLE, Charles Sidney, 38 Haygood Dr., Emory University, Ga. (1947) Emory Univ., prof., teach., res., bus.; b. 1910; B.A., 1931, Whitman Col.; M.B.A., 1934, Stanford; Ph.D., 1946, American. Fields 8ab, 6, 7. Doc. dis. Our flexible tariff (Pub. Affairs Press, 1948). Res. Financial management; investment timing study.
- COTTON, Thomas L., 60 E. 42nd St., New York, N.Y. (1939)
- COUPER, Walter James, Harriman Rd., Irvington, N.Y. (1923)
- COURT, Andrew T., 1517 Iroquois, Detroit, Mich. (1940)
- COURT, Sidney E., 601 W. 113th St., New York 25, N.Y. (1948)
- COURTNEY, William Hasell, Los Angeles Ch. of Com., Los Angeles 15, Calif. (1946) Los Angeles Ch. of Com., secy., bus., edit., res.; b. 1906; B.A., 1927, Vanderbilt; M.A., 1928, Stanford; LL.B., 1933, George Washington. Fields 11, 7, 1.
- COUTINHO, Flavio R., Banco Alianca do Rio de Janeiro, Caixa Postal, 924, Rio de Janeiro, Brazil, S.A. (1945)
- COVER, John Higson, 3731 39th St., N.W., Washington 16, D.C. (1921) Univ. of Maryland, Bur. of Bus. and Econ. Res., dir., prof.; res., edit., teach.; b. 1891; B.S., 1915, A.M., 1919, Ph.D., 1927, Columbia. Fields 6, 3, 10. Doc. dis. Changes in economic welfare, Denver and Colorado (Univ. of Denver, 1927). Pub. Business and personal failure and readjustment in Chicago (1933), Retail price behavior (1935) (Univ. of Chicago); "Some investigations in sampling and distribution of retail prices," Econometrica, July, 1937. Res. Measurement of economic changes; sizes of samples for retail pricing; economic development and potentials of local areas of Maryland-D.C. region. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa. Int. W.W.
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- COWDEN, Dudley Johnstone, Country Club Rd., Chapel Hill, N.C. (1928) Univ. of North Carolina, School of Com., prof. of econ. statis., teach., res.; b. 1899; A.B., 1919, Grinnell Col.; A.M., 1922, Chicago; Ph.D., 1931, Columbia. Fields 3, 1ac, 6, Doc. dis. Measures of exports of U. S. (Columbia Univ. Press, 1931). Pub. Applied general statistics (with F. E. Croxton) (1939). Practical business statistics (with F. E. Croxton) (1934, rev. 1948). Practical problems in business statistics (with M. S. Cowden) (1935, rev. 1948) (Prentice-Hall). Dir. W.W. in Amer., Dir. of Schol.
- COWDRICK, Edward Sheffield, 30 Rockefeller Plaza, New York 20, N.Y. (1926) Ind. rela. consult., bus.; b. 1883; A.B., 1904, Kansas. Fields 16, 8b, 2a. Pub. Industrial history of U. S. (Ronald Press, 1923); Manpower in industry (Holt, 1924). Dir. W.W. in East.
- COWHERD, (Mrs.) Hazel S., Univ. of Pennsylvania, Wharton School, Dept. of Econ., Philadelphia 4, Pa. (1946)
- COWLES, Alfred, 1130 Lake Shore Dr., Chicago, Ill. (1940)
- COX, Alonzo Bettis, Univ. Sta., Austin 12, Tex. (1923) Univ. of Texas, prof., teach., res.; b. 1884; A.B., 1911, M.A., 1914, Texas; Ph.D., 1924, Wisconsin; LL.D., Abilene Christian Col. Pub. Cotton prices and markets (1925), Marketing Amer. cotton on the continent of Europe (1928) (U.S. Dept. of Agric.); Cotton markets and cotton merchandising (Hemphills, Austin, 1948). Res. Cottonseed industries and markets for cottonseed products and cottonseed. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.
- COX, Garfield V., Faculty Exch., Univ. of Chicago, Chicago 37, Ill. (1923) Univ. of Chicago, School of Bus., dean, Robert Law Prof. of Fin., teach., res.; b. 1893; 1913-15, Earlham Col.; A.B., 1917, LL.D., 1946, Beloit Col.; Ph.D., 1929, Chicago. Fields 6, 7, 8b. Doc. dis. Evaluation of American business forecasts. Pub. Forecasting business conditions (co-author) (Macmillan, 1927); Appraisal of American business forecasts (Univ. of Chicago Press, 2nd ed. 1930); "Free enterprise vs. authoritarian planning," Jour. of Bus., Univ. of Chicago, Apr., 1947. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.
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- COX, Sherman Julian, 2234 Mira Mar Ave., Long Beach 4, Calif. (1942) Long Beach Naval Shipyard, statis., govt. serv.; b. 1912; B.A., 1936, California at Los Angeles. Fields 3, 8b, 6. Res. Development of performance indices for work measurement program of naval shipyards.
- COYNE, William J., 221 Hunter Ave., Juliet, Ill. (1940)
- CRAE, John R., Univ. of Louisville, Dept. of Econ.-Com., Louisville 8, Ky. (1947)
- CRAFER, Thomas Woodside Bentley, 946 Ackerman Ave., Syracuse, N.Y. (1935)
- CRAFTS, Prescott Clough, Jr., 32 George St., Medford 55, Mass. (1944) First Nat. Bank of Boston, For. Div.; Boston Univ., instr. of for. trade; bus.; b. 1920; B.B.A., 1942, Boston Univ.; 1943-44, Harvard. Fields 10, 7, 11.
- CRAIG, David Rankin, Amer. Retail Fed., 1627 K St., N.W., Washington, D.C. (1925)
- CRAMER, Edison H., Mercantile Bank and Trust Co., Boulder, Colo. (1940) Mercantile Bank and Trust Co., exec. vice-pres., bus., teach., govt. serv.; b. 1895; A.B., 1923, M.A., 1924, Ph.D., 1940, Michigan. Fields 7, 8, 1a. Doc. dis. Denver as financial center of eastern Rocky Mountain region.
- CRAMER, Lester Simon, 47 Hatherly Rd., Brighton 35, Mass. (1947) Cramer Research, Inc., pres.; Northeastern Univ., School of Bus., instr.; res., teach.; b. 1908; A.B., 1930, Harvard. Fields 16, 14, 12. Pub. "Suits and suitability," "Labor's right to organize" (both with S. M. Jacks) (M.I.T., Ind. Rela. Div., Apr., 1948). Res. Labor under the law.
- CRANE, Roderic Baird, Univ. of Omaha, Omaha 1, Neb. (1948) Univ. of Omaha, Dept. of Econ., chmn., teach., bus.; b. 1898; M.E., 1922, Cornell Univ.; M.B.A., 1941, Chicago. Fields 8ab, 6, 7.
- *CRANMER, H. Jerome, 8 W. 101st St., Shanks Village, Orangeburg, N.Y. (1947)
- CRAVEN, John V., 74 N. Congress St., Athens, Ohio. (1948)
- CRAWFORD, Arthur Whipple, 6325 Woodside Pl., Chevy Chase 15, Md. (1935) Ch. of Com. of U. S., Fin. Dept. staff; b. 1885; B.A., 1906, Beloit Col.; M.A., 1935, Ph.D., 1940, American. Fields 7, 9, 10. Doc. dis. Monetary management under New Deal (Amer. Coun. on Pub. Affairs, 1944). Pub. International financial problems (1940-46). (Ch. of Com. of U.S.) Dir. Dir. of Schol., W.W. in Com. and Ind., in East.
- CRAWFORD, John M., Carnegie Inst. of Tech., Pittsburgh 13, Pa. (1941) Carnegie Inst. of Tech., asst. prof., teach.; b. 1914; B.A., 1935, Reed Col.; 1937-41, Cornell Univ. Fields 12, 8a, 1a. Res. Valuation standards in corporate reorganization under Bankruptcy Act (doc. dis.).
- CRAWFORD, Mary Mazepa, Indiana Univ., Dept. of Econ. B. and E. Bldg., Bloomington, Ind. (1937) Indiana Univ., asst. prof., teach., res.; B.A., 1922, Wellesley Col.; M.A., 1930, Ph.D., 1942, Columbia. Fields 17d, 12a, 5. Doc. dis. Student folkways and spending at Indiana University, 1940-41 (Columbia Univ. Press, 1943). Res. Economics of consumption; translation and editing of business papers of Hyacinthe Lasselle, French trader on the Wabash, 1763-98.
- CRAWFORD, Robert Platt, Univ. of Nebraska, Univ. Hall, Lincoln, Neb. (1934) Univ. of Nebraska, prof.; Japanese Fin., SCAP, historian; teach.; b. 1893; A.B., 1917, Nebraska; A.M., 1926, Columbia. Fields 10, 8, 15. Pub. Think for yourself (1937). The magazine article (1931) (McGraw-Hill). Res. Japanese finance. Dir. W.W. in Amer.
- CRAWFORD, Wilfred Harris, 320 Murray Ave., Englewood, N.J. (1946) Richard D. Irwin, Inc., vice-pres., edit.; b. 1909; A.B., 1933, Harvard.
- CREAMER, James T., Fairfield Univ., Fairfield, Conn. (1947)
- CREIGHTON, I(ohn) W(allis), 155 Beechwood Rd., New Wilmington, Pa. (1947)
- CRISAFULLI, Virgil Charles, Syracuse Univ., Utica Col., Utica, N.Y. (1946)
- CROBAUGH, Alva Bernard, 18530 Winslow Rd., Shaker Heights 22, Ohio. (1946) Baldwin-Wallace Col., asst. prof., teach.; b. 1901; A.B., 1925, M.A., 1926, Stanford. Fields 11b, 8a, 9.

CROBAUGH, Clyde Julian, 2683 St. James Pkwy., Cleveland Heights 6, Ohio. (1941) Fenn Col., prof., dept. head, teach., res.; b. 1898; A.B., 1920, A.M., 1921, Stanford; 1922-25, Chicago; Ph.D., 1941, Pittsburgh. Fields 8c, 11b, 3ab. Pub. Handbook of insurance (1931), Casualty insurance (1930) (Prentice-Hall); Annuities and their uses (George Dean, 1932). Res. Research activities in U.S.

CROBAUGH, Mervyn, Univ. of New Mexico, Albuquerque, N.M. (1948)

CROCKETT, Earl Clarkson, 941 Grant Pl., Boulder, Colo. (1939) Univ. of Colorado, Dept. of Soc. Sci., chmn., prof. of econ., teach., res.; b. 1903; B.S., 1928, Utah; Ph.D., 1931, California. Fields 9, 7. Doc. dis. History of California labor legislation, 1910-30. Pub. Taxation in Colorado. (Univ. of Colorado, 1947). Res. State liquor monopolies; special funds in Colorado state government.

CROLL, Philip D., Sun Oil Co., 1608 Walnut St., Philadelphia, Pa. (1946)

CROMPTON, George, 695 Main St., Worcester, Mass. (1935)

CRONIN, Bernard Cornelius, 145 Guerrero St., San Francisco 3, Calif. (1944) Col. of Holy Names, instr., teach.; b. 1909; A.B., 1936, St. Patrick's Sem., Ph.D., 1943, Catholic Univ. Fields 16, 1b, 2a. Doc. dis. Father Yorke and labor movement in San Francisco, 1900-10 (Catholic Univ., 1943). Dir. Lead. in Educa.

CRONIN, John Augustine, Spring Hill Col., Spring Hill, Ala. (1938)

CRONIN, John Francis, 1312 Massachusetts Ave., N.W., Washington 5, D.C. (1939) Nat. Catholic Welfare Conf., Dept. of Soc. Action, asst. dir., res., teach.; b. 1908; A.B., 1927, M.A., 1928, Ph.D., 1935, Catholic Univ. of Amer.; Ph.D. (Hon.), 1947, Col. of Holy Cross. Fields 16, 4, 6. Doc. dis. Cardinal Newman: his theory of knowledge (Catholic Univ. Press, 1935). Pub. Economics and society (1939), Economic analysis and problems (1945) (Amer. Book Co.); Catholic social action (Bruce Pub. Co., 1948). Res. Code of ethics for industry and business.

CROOK, Wilfrid Harris, 20 University Ave., Hamilton, N.Y. (1926) Colgate Univ., dept. head, prof.; b. 1888; B.A., 1911, M.A., 1914, Oxford Univ.; Ph.D., 1928, Harvard. Field 16. Doc. dis. General strike in theory and practice to 1914. Pub. General strike (Univ. of North Carolina Press, 1931); "General strike," Ency. of Soc. Sci.; "Cultural compulsives," in Carver essays (Harvard Univ. Press, 1934). Dir. Dir. of Schol.

CROSBY, G. Reginald, 91 Lenox St., West Newton 65, Mass. (1925) Soc. Sec. Admin., Bur. of Old Age and Survivors Ins., asst. reg. rep., govt. serv.; b. 1899; attended Harvard, Columbia, American, Southeastern.

CROSS, Ira Brown, 1454 Le Roy Ave., Berkeley 8, Calif. (1910)

CROTEAU, John Tougas, Catholic Univ. of Amer., Dept. of Econ., Washington 17, D.C. (1946) Catholic Univ. of Amer., asst. prof., teach., res.; b. 1910; A.B., 1931, Holy Cross Col.; M.A., 1932, Ph.D., 1935, Clark Univ. Fields 1b, 4c, 15b. Doc. dis. Development of mutual savings banks of Massachusetts (abstract, Clark Univ. Press, 1935). Pub. A regional library and its readers (Amer. Asso. for Adult Educa., 1940); Farmers' Creditors' Arrangement Act in Prince Edward Island (Inst. of Pub. Affairs, Dalhousie, 1939). Res. Credit union: legal form versus economic function. Dir. W.W. in Canada.

CROUCH, Charles Earnest, Vanderbilt Univ., Nashville 4, Tenn. (1945)

CROWDER, Edward Tomlin, Jr., Bur. of Budget, Div. of Statis. Standards, State Dept. Bldg., 17th and Pennsylvania Ave., Washington, D.C. (1934)

CROWDER, Walter Frederick, 330 W. 42nd St., New York 18, N.Y. (1937) McGraw-Hill Pub. Co., Inc., ind. dist., editor, teach., govt. serv., bus.; b. 1903; B.S., 1926, M.S., 1929, Illinois; Ph.D., 1932, Iowa. Fields 11ab, 12a, 14a. Doc. dis. Median price change index. Pub. Methods of

statistical analysis (Wiley, 1933); Structure of industry (TNEC Mono. 27, 1941). Res. Industrial distribution; distribution cost analysis. Dir. Lead. in Educa.

CROXTON, Fred C., 3200 16th St., N.W., Washington 10, D.C. (1911)

CROXTON, Frederick Emory, Columbia Univ., Box 20, Hamilton Hall, New York 27, N.Y. (1941) Columbia Univ., prof. of statis., teach., res.; b. 1899; A.B., 1920, A.M., 1921, Ohio State; Ph.D., 1926, Columbia. Field 3a. Doc. dis. Unemployment in Columbus, Ohio, 1921 to 1925 (U. S. Bur. of Labor Statis., Bul. 409, June, 1926). Pub. Applied general statistics (with D. J. Cowden) (1939), Workbook in applied general statistics (1937, rev. 1941), Practical business statistics (with D. J. Cowden) (1934, rev. 1948) (Prentice-Hall). Dir. W.W. in Amer., in East, Who Knows—and What.

***CRUISE, Dewey William, Jr.**, 11356 Homedale, Los Angeles 24, Calif. (1948) Univ. of California at Los Angeles, student; b. 1922; B.S., 1947, M.B.A., 1948, California at Los Angeles, Fields 4a, 1a, 13ab.

CRUM, William Leonard, Univ. of California, 113 South Hall, Berkeley 4, Calif. (1921) Univ. of California, prof. of econ., teach.; b. 1894; B.A., 1914, S.D. (Hon.), 1940, Williams Col.; M.A., 1916, Ph.D., 1917, Yale; M.A. (Hon.), 1938, Harvard. Fields 8a, 3a, 9. Doc. dis. Perturbations caused by a close approach of two asteroids (Astron. Jour., 1918). Pub. Corporate size and earning power (Harvard Univ. Press, 1938); Fiscal planning for total war (with J. F. Fennelly and L. H. Seltzer) (Nat. Bur. of Econ. Res., 1942); Rudimentary mathematics for economists and statisticians (with J. A. Schumpeter) (McGraw-Hill, 1946). Res. Corporate taxes and financial structure.

CRUMBAKER, Calvin, Univ. of Oregon, Eugene, Ore. (1925) Univ. of Oregon, dept. head, teach.; b. 1885; B.S., 1911, Whitman Col.; M.A., 1927, Univ. of Washington; Ph.D., 1930, Wisconsin. Fields 13ab, 8a, 12b. Doc. dis. Development of long and short haul policy of Interstate Commerce Commission (Univ. of Oregon, 1935). Pub. Organizing and financing modern business (Wiley, 1939); Transportation and politics (Univ. of Oregon, 1940); "TNEC investigation, report of executive secretary," J.P.E., 1942. Dir. W.W. in Oregon, in Amer. Educa.

***CRUZ, Eugenia L.**, Catholic Univ., School of Nursing Educa. Bldg., Washington, D.C. (1948)

CULBERTSON, John M., 1446 University Terrace Apts., Ann Arbor, Mich. (1948) Univ. of Michigan, student, teach. fellow; b. 1921; B.A., 1946, M.A., 1947, Michigan. Fields 1, 9, 7.

CULBERTSON, William Smith, Colorado Bldg., Washington, D.C. (1936)

CULLEN, James A., 48 S. Second Ave., Mt. Vernon, N.Y. (1934)

CUMBERLAND, William Wilson, 25 Broad St., New York 4, N.Y. (1916) Ladenburg, Thalmann & Co., partner, econ., bus.; b. 1890; A.B., 1912, LL.D., 1937, Occidental Col.; A.M., 1913, Columbia; Ph.D., 1916, Princeton. Fields 8ab, 10, 9. Doc. dis. Cooperative marketing (Princeton Univ. Press, 1917). Pub. Nicaragua—an economic and financial survey (Dept. of State, 1928); American individual enterprise system (Joint author) (McGraw-Hill, 1947). Dir. W.W. in Amer., Int. W.W.

CUMMINGS, Herbert J., 1425 Rhode Island Ave., N.W., Washington 5, D.C. (1938) Dept. of State, attaché, govt. serv.; B.S., 1937, Pittsburgh; M.A., 1940, Northwestern. Fields 9, 4ab, 10. Pub. Turkish aid program (Dept. of State, Pub. 3014, Econ. Coop. Ser., Feb., 1948). Dir. W.W. in East.

CUNANAN, Joaquin, 65 W. 100th St., Apt. 1 F E, New York, N.Y. (1945)

CUNKLE, Arthur Lee, Univ. of Florida, Gainesville, Fla. (1946) Univ. of Florida, Col. of Bus. Admin., asst. prof. of econ. and gen. bus., teach., res.; b. 1911; B.A., 1938, Arkansas State Teach. Col.; M.A., 1939, Kansas; summers, 1940, Arkansas, 1942, Chicago; Ph.D., 1947, Virginia. Fields 9, 2a, 1a. Doc. dis. Impact of World War II on state finances.

- DAILEY, Don Marcus, 6015 Kimbark Ave., Chicago 37, Ill. (1921) U.S. Savings and Loan League,

Chicago, dir. of fin. res., res., bus.; b. 1892; B.A., 1920, Oberlin; M.A., 1922, Ph.D., 1934, Northwestern. Fields 7, 3c, 15c. Doc. dis. Development of banking in Chicago before 1890. Pub. Chicago banks as factors in the money market (Univ. of Illinois, Bur. of Bus. Res., 1929); "A review of money rates in Chicago," Jour. of Bus. of Univ. of Chicago, Oct., 1937; "Early development of note-brokerage business in Chicago," J.P.E., Apr., 1938. Res. Trends in thrift and home financing institutions.

DAILEY, O. F., Univ. of Oklahoma, Faculty Exch., Norman, Okla. (1945)

DALAL, Ruston Dadiba, c/o Swiss Bank Corp., West End Branch, 11c Regent St., Waterloo Pl., London, S.W.1, England. (1931) Retired; b. 1892.

DALE, Ernest, Columbia Univ., School of Bus., New York 27, N.Y. (1944). Columbia Univ., School of Bus., lecturer in labor rela., res., teach.; b. 1917; B.A., 1939, Cambridge Univ.; M.A., 1946, Yale. Fields 11ac, 16, 1a. Pub. Annual wages and employment stabilization techniques (1945). Preparation of company annual reports (1946). Foreman's status in industry (1945) (Amer. Mgt. Asso.). Res. Labor-management co-operation to increase productivity.

DALY, Rex F., Univ. of Illinois, Dept. of Agric. Econ., Urbana, Ill. (1948) Univ. of Illinois, Bur. of Agric. Econ., co-op. agent, res., govt. serv.; b. 1915; B.S., 1938, Utah State Agric. Col.; M.S., 1939, Maryland. Fields 15b, 1ac, 3ac. Res. Income size distribution for farm-operator families in Illinois.

DAMERON, Wilbur Robbins, 226 Hillside Ter., Great Kills, Staten Island 8, N.Y. (1927) Hornblower & Weeks, Statist. and Res. Dept., mgr., bus.; A.B., 1913, William and Mary; A.M., 1926, Harvard; M.B.A., 1944, New York. Fields 8ab, 14, 10.

DANCE, Maurice Eugene, 112 7th Ave., Apt. 178-E, Seattle 4, Wash. (1948) Univ. of Washington, teach. asst., student; b. 1923; 1940-41, Bismark Jr. Col.; 1941-42, Minnesota; B.A., 1947, Univ. of Washington. Fields 16, 1a, 9.

DANHOF, Clarence H., Princeton Univ., Woodrow Wilson School, Princeton, N.J. (1936) Princeton Univ., asst. prof., teach., res.; b. 1911; A.B., 1932, Kalamazoo Col.; A.M., 1933, Ph.D., 1939, Michigan; 1933-34, Iowa. Fields 2a, 12b, 15hc. Doc. dis. Agricultural system of production in U.S. 1850-60. Pub. "Farm-making costs and the 'safety valve,' 1850-60," J.P.E., June, 1941; "Reconversion in metal fabricating industries," Survey of Cur. Bus., June, 1945; contributor to "The United States at war" (Bur. of Budget, 1947). Res. Entrepreneurship in American agriculture, 1840-80. Dir. Dir. of Schol.

DANKERT, Clyde Edward, 9 Pleasant St., Hanover, N.H. (1929) Dartmouth Col., prof., teach., res.; A.B., 1926, McMaster Univ.; A.M., 1927, Ph.D., 1930, Chicago. Fields 16, 4a, 1b. Doc. dis. Trends and problems in marketing of furniture. Pub. Contemporary unionism in the United States (Prentice-Hall, 1948); "The Canadian Industrial Disputes Investigations Act," J.P.E., Feb., 1928; "Labor immobility and technological unemployment," Social Forces, Mar., 1941.

DANNEMANN, Geraldo, Rua Marechal Floriano 1, Canela, Salvador, Bahia, Brazil, S. Amer. (1946)

DANNENBERG, Frederick Mortimer, 88 Crooke Ave., Brooklyn 26, N.Y. (1936) Traders Export & Import Corp., vice-pres., bus.; b. 1907; Ph.G., 1928, Brooklyn Col. of Pharmacy; B.S., 1936, M.B.A., 1937, New York. Fields 13a, 12b, 1a. Pub. "Future of public utilities," Trusts and Estates, June, 1941; "Standby equipment," Public Util. Fortnightly, Mar. 12, 1942; "Depreciation and capital replenishment," Jour. of Accountancy, Apr., 1942. Res. Economic significance of evolution of public utility accounting.

D'ARLIN, Maurice Y., 151 W. 12th St., New York 11, N.Y. (1948)

DAS, Rajani Kanta, 3200 16th St., N.W., Washington 10, D.C. (1944) B. 1881; B.S., 1910, Ohio State; M.S., 1911, Missouri; M.A., 1912, Ph.D.,

1916, Wisconsin. Fields 16, 2a, 4. Doc. dis. Factory labor in India. Pub. Industrial efficiency of India (P. S. King, London, 1930); Industrial labor in India (Int. Labour Office, 1938); India and a new civilization (Calcutta, 1942). Res. Reconstruction of industrial wages in Far East. Dir. W.W. in Amer., in East, Int. W.W., Who Knows—and What.

DASSEL, Virgil Homer, 850 Montrose Ave., Columbus, Ohio. (1930)

DAUER, Ernst August, 225 Wood Ct., Wilmette, Ill. (1937) Household Fin. Corp., Consumer Credit Studies, dir., bus., res., edit.; b. 1906; B.S. 1929 M.B.A., 1930, Ph.D., 1942, Northwestern; 1930-31, Handelshochschule (Mannheim, Germany); 1937-38, American Univ. Fields 7, 8ab, 6. Doc. dis. Comparative operating experience of consumer instalment financing agencies and commercial banks, 1929-41 (Nat. Bur. of Econ. Res., 1944); 100 short problems in corporation finance (co-author) (Ronald Press, 1937); "Radical changes in industrial banks," Harvard Bus. Rev., Autumn, 1947; "Instalment credit—opportunity or pitfall," Nat. Auditgram, Sept., 1947. Res. Developments in, and affecting, consumer credit agencies. Dir. Dir. of Schol.

DAUGHERTY, Carroll Roop, 3023 Park Pl., Evanston, Ill. (1930) Northwestern Univ., prof. of bus. econ., teach., res.; b. 1900; A.B., 1921, Lebanon Valley Col.; A.M., 1924, Ph.D., 1927, Pennsylvania. Fields 16, 1a, 5. Doc. dis. Development of horsepower equipment in U.S. (U.S. Geological Survey, 1928). Pub. Labor problems in American industry (Houghton Mifflin, 1933, 1934, 1935, 1938, 1941); Economics of iron and steel industry (co-author) (McGraw-Hill, 1937); Man to his world (Harpers, 1932). Res. Demand for labor. Dir. W.W. in Amer., Lead. in Educa.

DAUTEN, Carl Anton, 330 Midway, Kirkwood 22, Mo. (1945) Washington Univ., asso. prof. of fin., teach., res.; b. 1913; A.B., 1936, A.M., 1939, Ph.D., 1944, Washington Univ. Fields 8ab, 6, 7. Doc. dis. Relationship of investment to business activity (privately printed). Pub. Business finance (Prentice-Hall, 1948).

Da VAULT, James William, Univ. of Florida, Col. of Bus. Admin., Gainesville, Fla. (1935) Univ. of Florida, prof., teach., res.; b. 1900; B.S., 1928, Missouri; M.S., 1932, Ph.D., 1939, Columbia. Fields 11ac, 8ab, 1a. Doc. dis. Accounting for farm costs. Pub. "Education for the accounting profession," N.Y. Cert. Pub. Acct., Aug., 1945.

DAVENPORT, Donald Hilds, 112 S. Lake Ave., Albany 3, N.Y. (1924)

DAVENPORT, Fred Parks, St. Mary's Col., St. Marys, Calif. (1947) St. Mary's Col., instr., teach., res.; b. 1916; B.Bus.Admin., 1939, Texas Tech. Col.; 1944, Wayne Univ.; M.A., 1948, California. Fields 9, 6, 7. Pub. Recent land reform legislation in Great Britain (Univ. of California, 1948). Res. Correlation of changing values of real property and tax assessments in selected areas.

*DAVENPORT, Robert Wesley, 500 Riverside Dr., New York 27, N.Y. (1947) Long Island Univ., instr., teach., res.; b. 1922; B.A., 1943, Univ. of Washington; M.A., 1944, Fletcher School of Law and Diplomacy; 1945-46, Chicago; 1947-48, Columbia. Field 10, 4a, 1a. Res. Soviet foreign economic policy toward backward areas (doc. dis.).

DAVEY, Harold William, Iowa State Col., Dept. of Econ. and Soc., Ames, Iowa. (1946) Iowa State Col., asso. prof. of econ.; b. 1915; A.B., 1936, Syracuse; M.A., 1938, Ph.D., 1939, Harvard. Fields 16, 12b, 10. Doc. dis. Administrative discretion under the National Labor Relations Act. Pub. "Hazards in labor arbitration," Ind. and Labor Rela. Rev., Apr., 1948; "Experience of other countries in the formulation of economic programs," Amer. Polit. Sci. Rev., Apr., 1948; "Separation of functions and the National Labor Relations Board," Univ. of Chicago Law Rev., Feb., 1940. Res. Text for one semester courses in industrial relations; recent developments in structure of unionism and appropriate unit for purposes of collective bargaining.

DAVID, Charles Wendell, Univ. of Pennsyl-

vania, Library, Philadelphia, Pa. (1946) Univ. of Pennsylvania, dir. of libraries, prof. of hist.; b. 1885; B.A., 1911, Oxford Univ. (England); A.M. 1912, Wisconsin; Ph.D., 1918, Harvard. Field 2. Pub. Robert Curthose, Duke of Normandy (1920); Conquest of Lisbon (1936). Dir. W.W. in Amer.

DAVID, Paul Theodore, 3787 Cote-des-Neiges Rd., Apt. 425, Montreal, Que., Canada. (1930)

DAVID, Robert S., 97 Galveston St., S.W., Apt. 204, Washington 20, D.C. (1946)

DAVIDSON, Julius, 6144 Utah Ave., N.W., Washington 15, D.C. (1931) Lib. of Cong., bus., govt. serv.; b. 1897; A.B. 1919, Harvard; 1919-20, 1923, 1929-30, Columbia. Fields 12b, 11ac, 3ac.

DAVIDSON, Sidney, Univ. of Michigan, Econ. Dept., Ann Arbor, Mich. (1946) Univ. of Michigan, instr., teach., res.; b. 1919; A.B., 1941, M.B.A., 1941, Michigan. Fields 11c, 13a, 5. Res. Accounting policy of the Federal Power Commission.

DAVIES, George Reginald, Univ. of Iowa, Col. of Com., Iowa City, Iowa. (1925) State Univ. of Iowa, Col. of Com., prof.; b. 1876; A.B., 1899, Des Moines Col.; Ph.D., 1914, North Dakota. Fields 2, 3, 1. Doc. dis. Social environment (A. C. McClurg, 1917). Pub. Business statistics (with Dr. Yoder) (Wiley).

DAVIES, John, Ohio State Univ., Dept. of Econ., Columbus 10, Ohio (1947)

DAVIES, Margaret (Mrs. Godfrey), 395 S. Bonnie Ave., Pasadena 4, Calif. (1936)

DAVIS, Dudley Diggs, ESS Labor, GHQ, SCAP, APO 500, c/o Postmaster, San Francisco, Calif. (1946) Dept. of Army, labor anal. P-6; b. 1912; B.S., 1936, M.S., 1941, Butler Univ. Fields 16, 17b, 12b.

DAVIS, Edward Hatton, 61 Oakland Ave., Waterbury 57, Conn. (1902) Scovill Mfg. Co., office exec., bus.; b. 1879; B.S., 1900, M.I.T.; 1902-03, Columbia. Fields 8c, 14a, 2a.

*DAVIS, Gilbert Clore, Jr., 634 W. 66th Ter., Kansas City 5, Mo. (1943) B. 1922; 1941, Jr. Col. of Kansas City, Mo.; A.B., 1944, Princeton; 1944-45, Harvard; A.M., 1948, Princeton. Fields 1a, 7, 11ab.

DAVIS, Hiram S., Ind. Res. Dept., 3440 Walnut, Philadelphia 4, Pa. (1945) Univ. of Pennsylvania, Wharton School, Ind. Res. Dept., dir., res.; b. 1903; M.S., 1927, Denver. Fields 14a, 3c, 2a. Pub. Industrial study of economic progress (Univ. of Pennsylvania Press, 1947); Vertical integration in the textile industries (co-author) (Ind. Res. Dept., Univ. of Pennsylvania, 1938); Inventory trends in textile production and distribution (Textile Found., 1941). Res. Productivity accounting and accounting for industry's income dollars.

DAVIS, Horace Bancroft, 4121 Forest Ave., Kansas City 4, Mo. (1929) Univ. of Kansas City, asso. prof., teach.; b. 1898; A.B., 1921, Harvard; Ph.D., 1934, Columbia. Fields 16, 17d, 4b. Doc. dis. Condition of labor in iron and steel industry of the U.S. (Columbia Univ. Press, 1934). Pub. Labor and steel (1934). Shoes: the workers and the industry (1941) (Int. Pub.); "Standard of living of the working class of São Paulo" (Brazil), Revista do Arquivo Municipal de São Paulo, June, 1935.

DAVIS, John Anderson, 806 Main St., Dallas 2, Texas. (1946) Inter-Ocean Ins. Co., asst. state mgr., bus., edit.; b. 1924; 1943-44, 1946-47, Trinity Univ.; 1945-46, Southern Methodist Univ. Fields 11a, 6, 8. Pub. "Insurance in the postwar world," Eastern Underwriter, May 25, 1945.

DAVIS, John Gordon, Coun. of Econ. Advisers, Room 362, Old State Bldg., Washington, D.C. (1947) Coun. of Econ. Advisers, econ., res.; b. 1904; B.S., 1930, M.A., 1930, Ohio State. Fields 16, 11a, 1. Pub. "Should unions incorporate?" Canadian Forum, 1937; "Controlled referral," USES Manpower, Rev., 1944; "Outlook for labor productivity," Com. and Fin. Chron., 1948. Res. The guaranteed wage.

DAVIS, Joseph Stancliffe, Food Res. Inst., Stanford University, Calif. (1911) Food Res. Inst., dir., res., edit., teach.; b. 1885; 1902, West Chester State Normal School; A.B., 1908, Ph.D., 1913, Harvard. Fields 17d, 15b, 10. Doc. dis. Corporations in the American colonies. Pub. Essays in

the earlier history of American corporations (Harvard Univ. Press, 1917); On agricultural policy, 1926-38 (Food Res. Inst., Stanford Univ., 1939); International commodity agreements: hope, illusion, or menace? (Com. on Int. Econ. Policy with Carnegie End. for Int. Peace, 1947). Res. Consumption economics; international history of food and agriculture in World War II. Dir. W.W. in Amer. Dir. of Schol. Lead. in Educa., Int. W.W.

DAVIS, Pierpont Van Derveer, 63 Wall St., New York 5, N.Y. (1912)

DAVIS, Richard Malone, Lehigh Univ., Dept. of Econ., Bethlehem, Pa. (1941) Lehigh Univ., asst. prof., teach.; b. 1918; A.B., 1939, Colgate; A.M., 1941, Cornell Univ. Fields 1ab, 7, 16.

DAVIS, William C., 1560 Amsterdam Ave., New York 31, N.Y. (1939)

DAVIS, William Zeller, 911 Robbins Ave., Niles, Ohio. (1934)

DAVISON, Robert Lewis, 17625 Archdale Ave., Lakewood 7, Ohio. (1946) Sink and Counter Top Mfrs. Inst., secy-treas., bus., res.; b. 1906; A.B., 1928, Colgate; 1935-36, Cleveland Col.; 1936-39, 1945-46, Western Reserve Univ. Fields 14, 12a, 17ab.

DAVISON, Sol, 1028 Connecticut Ave., N.W., Washington 6, D.C. (1936)

DAVISSON, Charles Nelson, Univ. of Michigan, School of Bus. Admin., Ann Arbor, Mich. (1944)

DAWSON, C. C., Mississippi Southern Coll., Hattiesburg, Miss. (1946)

DAY, Clive, 44 Highland St., New Haven, Conn. (1908) Retired.

DAY, Edmund Ezra, 27 East Ave., Ithaca, N.Y. (1907) Cornell Univ., pres.; b. 1883; S.B., 1905, A.M., 1906, Dartmouth; Ph.D. 1908, Harvard; LL.D., 1931, Vermont. Fields 3, 6, 11. Pub. Index of physical production (1920); Statistical analysis (1925); Growth of manufactures (with W. Thomas) (1928). Dir. W.W. in Amer., Lead. in Educa., Int. W.W.

de ABREU, Luiz Simoes, R. Leao de Oliveira, 20-2° E., Lisbon, Portugal. (1947)

DEAN, Charles Rufus, 415 W. 53rd St., New York 19, N.Y. (1947) Rutgers Univ., Newark Col., instr. in econ., teach.; b. 1925; S.B., 1945, Harvard; 1945-48, Columbia. Fields 12a, 4, 16.

DEAN, Hazel, 961 W. 30th St., Los Angeles, Calif. (1945)

DEAN, Joel, 561 W. 116th St., New York 27, N.Y. (1935) Columbia Univ., prof. of econ., res., teach., bus.; A.B., 1927, Pomona Col., M.B.A., 1929, Harvard; Ph.D., 1936, Chicago. Fields 12, 14, 3. Doc. dis. Statistical determination of cost (Univ. of Chicago Press, 1936). Pub. Statistical cost functions of a hosiery mill (1941), Long-run behavior of costs (with R. W. James) (1942) (Univ. of Chicago Press); Res. Price policy studies; cost behavior. Dir. W.W. in Amer., in Com. and Ind.

DEAN, Prentice Northup, 1830 N. Powhatan St., Arlington, Va. (1924) Munitions Bd., Office of the Secy. of Defense, special adviser, For. Trade Sec., govt. serv.; b. 1897; A.B., 1920, Princeton; M.A., 1923, Amer. Univ. of Beirut, Syria; 1923-26, Princeton. Fields 10, 7. Dir. Dir. of Schol.

DEAN, William H., 35 W. 110th St., Apt. 3-E, New York, N.Y. (1945)

DEARING, Charles Lee, 722 Jackson Pl., Washington, D.C. (1935) Brookings Inst., sr. staff memb., res.; b. 1903; 1926-27, Michigan; B.A., 1929, George Washington. Fields 13b, 12b, 9. Pub. American highway policy (1941), Government and economic life, Vol. II (joint author, Lyon and Associates) (1940), Automobile transportation in the war effort (1942) (Brookings). Res. Government activities in field of transportation; public policy and railroad transportation. Dir. W.W. in East.

De BARD, August Alfred, Jr., Oronoque Rd., Milford, Conn. (1932)

de BEERS, John Sterling, 5009 Newport Ave., Washington 16, D.C. (1942) U.S. Treas. Dept., Office of Int. Fin., Latin American Div., chief, govt. serv.; b. 1914; A.B., 1937, Cornell Univ.; A.M., 1939, American; 1939-40, Chicago. Fields 10, 7, 2. Pub. "Tariff aspects of a federal union," Q.J.E., Nov., 1941.

- de CAPRILES, Miguel A., New York Univ., Washington Sq. E., New York 3, N.Y. (1943)
- De CASTRO-BARBERENA, Manuel, 308 W. 30th St., New York 1, N.Y. (1942)
- de CHAZEAU, Melvin Gardner, Cornell Univ., School of Bus. and Pub. Admin., Ithaca, N.Y. (1934) Cornell Univ., prof. of bus. econ. and policy, teach., res., govt. serv.; b. 1900; A.B., 1924, A.M., 1925, Univ. of Washington; A.M., 1927, Ph.D., 1930, Harvard. Fields 12, 14a, 13a. Doc. dis. Theory of rate base and Massachusetts rule. Pub. Economics of iron and steel industry (co-author) (1937), Jobs and markets (1946) (McGraw-Hill); "Rationalization of electricity supply in Great Britain," Jour. of Land and Pub. Util. Econ., 1934. Res. What businessmen can do to maintain high employment.
- DECKINGER, Elliot Lawrence, 405 W. 57th St., New York 19, N.Y. (1946) Blow Co., res. dir., res., bus.; b. 1917; B.S., 1936, M.S., 1937, Ph.D., 1947, New York. Field 11b. Doc. dis. Analysis of seasonal variations in audiences to evening network radio programs. Pub. "How high a rating should your show get," Nov., 1941, "Cost of getting readers for full, half, and bleed pages," Mar., 1942, Advertising and Selling. Res. Advertising effectiveness.
- De COU, Donald Frank, 1209 Pomeroy, Manhattan, Kan. (1945) Kansas State Col., asso. prof., teach., res.; b. 1902; B.S., 1929, Kansas State Teachers Col.; M.B.A., 1933, Northwestern. Fields 7, 9, 8.
- de DIOSZEGH, Raoul Kuffner, 322 E. 57th St., New York 22, N.Y. (1945)
- DEES, Tedford Connor, 1365 Corona St., Denver 3, Colo. (1947) B. 1924; B.B.A., 1948, Denver. Fields 10, 11a.
- de FORD, Herman Jean, 111 W. Jackson Blvd., Chicago 4, Ill. (1933) H. J. de Ford & Co., propr., bus.; b. 1887; 1928-33, Northwestern. Field 8b.
- De FORD, John Franklin, 2310 S. 35th St., Omaha 5, Neb. (1944)
- *DEGEN, Robert Arthur, Syracuse Univ., Dept. of Econ., Maxwell Hall, Syracuse 10, N.Y. (1947) Syracuse Univ., grad. teach. asst.; b. 1920; B.S., 1947, Syracuse. Fields 7, 9, 10.
- DEGLER, Carroll M., Univ. of New Hampshire, Dept. of Econ., Durham, N.H. (1942)
- DEHEM, Roger Jules, McGill Univ., Dept. of Econ., Montreal, Que., Canada. (1948) McGill Univ., visiting lecturer; Montreal Univ., lecturer, teach., res.; b. 1921; Masters in Com. and Fin., 1942, in Econ., 1943, in Polit. and Soc. Sci., 1946, Louvain Univ.; Rockefeller Traveling Fellow in Sweden and U.S. Fields 1, 6, 10. Pub. "Emploi et Revenu en Economie ouverte," Jan., 1946, "Conjoncture et Politique economique aux Etats-Unis," June, 1947, Bulletin de l'Institut de Recherches Economiques et Sociales (Louvain). Res. Employment and welfare economics.
- de HERMIDA, Frank A., 7435 Boulevard E., North Bergen, N.J. (1946)
- †DEIBLER, Frederick Shipp, 2306 Marcy Ave., Evanston, Ill. (1908) Northwestern Univ., prof. emeritus; b. 1876; A.B., 1900, Hanover Col.; A.M., 1904, Harvard; Ph.D., 1909, Wisconsin; LL.D., 1947, Miami Univ. Fields 1a, 16, 4a. Doc. dis. Amalgamated wood workers union (Univ. of Wisconsin Studies). Pub. Principles of economics (McGraw-Hill, 1929, 1936). Dir. W.W. in Amer., Lead in Educa.
- *DEIF, Nazih Ahmed, 1414 E. 59th St., Chicago 37, Ill. (1948)
- DEMEL, Henry Lito, Jr., 4414 Macomb St., N.W., Washington 16, D.C. (1946) Dept. of State, special asst., govt. serv.; b. 1899; A.B., 1920, Ph.D., 1923, California. Fields 10, 13b, 15d.
- DEIN, Raymond Charles, Univ. of Nebraska, Col. of Bus. Admin., Lincoln, Neb. (1941) Univ. of Nebraska, asso. prof. of acctg., teach.; b. 1905; B.S. in B.A., 1930, M.A., 1935, Nebraska; Ph.D., 1944, Minnesota. Fields 11c, 13a, 12b. Doc. dis. Books of account approach to rate base, with special reference to intangibles.
- DEINZER, Harvey T., Univ. of Florida, Col. of Bus. Admin., Gainesville, Fla. (1947) Univ. of Florida, asso. prof., teach.; b. 1908; A.B., 1932, M.B.A., 1933, Ph.D., 1947, Michigan. Fields 12b, 11c, 9. Doc. dis. World War II price control and stabilization in U.S. Pub. "Paid-in capital" and "Earned surplus, reserves, dividends" in Accountants' handbook (W. A. Paton, editor) (Ronald Press, 3rd ed., 1943); "This Treasury stock questions," Acctg. Rev., Sept. 1937.
- DEKOCK, Jules, 4866 Cote des Neiges Rd., Montreal, Que., Canada. (1946)
- DELAPLANE, Walter Harold, 4 Elm St., Canton, N.Y. (1938) St. Lawrence Univ., dept. head, prof., teach., res.; b. 1907; A.B., 1929, A.M., 1931, Oberlin; Ph.D., 1934, Duke. Fields 7, 10, 1. Doc. dis. Spanish Peseta, 1913-33. Pub. "War and an agricultural economy: the case of Colombia," Southern Econ. Jour., July, 1942. Res. Paraguayan economic problems.
- DEMBITZ, Lewis N., 3414 Garfield St., N.W. Washington 7, D.C. (1947) Bd. of Gov. of Fed. Res. System, Div. of Res. and Statis., Int. Group, head, govt. serv.; b. 1910; A.B., 1930, George Washington; M.B.A., 1932, Harvard. Fields 10, 7, 8b.
- DEMING, Frederick Louis, Fed. Res. Bank, St. Louis 2, Mo. (1948) Fed. Res. Bank of St. Louis, Res. Dept., mgr., res., bus., teach.; b. 1912; A.B., 1934, A.M., 1935, Ph.D., 1941, Washington Univ. Fields 7, 4, 6.
- DEMMER, Ronald A., Nash-Kelvinator Corp., Detroit 32, Mich. (1948) Nash-Kelvinator Corp., Mktg. and Org. Dept., mgr.; b. 1903. Field 11ab. Res. Marketing and organization problems.
- DEMMEY, Joseph, Univ. of Washington, Seattle 5, Wash. (1924) Univ. of Washington, prof., teach.; b. 1893; Ph. B., 1920, M.A., 1924, Chicago. Fields 6, 15c. Pub. "Correspondent banks and Federal Reserve System," June, 1924, "Westward lag in business," Apr., 1934, Univ. Jour. of Bus.; "Uncertainties in appraising real estate," Appraisal Jour., Jan., 1943. Res. Business fluctuations.
- DEMOND, Helen Fairchild, 2700 Que St., N.W., Washington 7, D.C. (1940)
- DEMOTT, J. Piroh, 76 Palmer St., Passaic, N.J. (1946) Rheem Mfg. Co., dept. head, res., bus.; M.A., 1938, Columbia. Fields 3, 11, 14.
- DEMPSEY, Bernard William, 3674 Lindell Blvd., St. Louis 8, Mo. (1932) St. Louis Univ., School of Com. and Fin., regent, Dept. of Econ., dir.; 1920-22, Marquette; A.B., 1928, A.M., 1929, S.T.L., 1936, St. Louis; Ph.D., 1940, Harvard. Fields 7, 5, 12. Doc. dis. Interest and usury (Amer. Coun. on Pub. Affairs, 1943). Pub. Reorganization of social economy (with vonNell-Breuning) (Bruce, Milwaukee, 1936); Planned society (co-author) (edited by T. Findley-MacKenzie) (Prentice-Hall, 1937). Dir. W.W. in Amer.
- DENISON, (Mrs.) Dorothy C., 1125 Lincoln Dr., Grand Forks, N.D. (1946)
- DENISON, Edward Fulton, 1262 Martha Custis Dr., Alexandria, Va. (1941) Nat. Income Div., Office of Bus. Econ., Income Sec., chief, govt. serv.; b. 1915; 1932-34, Central Y.M.C.A. Col., Chicago; A.B., 1936, Oberlin; M.A., 1938, Ph.D., 1941, Brown. Fields 5, 14c, 16. Doc. dis. Influence of Walsh-Healey Public Contracts Act upon labor conditions (J.P.E., 1941). Pub. "Incomes in selected professions," 1934-44, "Revised estimates of wages and salaries in the national income," 1945, Survey of Cur. Bus.; International discussions of national income measurement, in Conference on research in income and wealth (Nat. Bur. of Econ. Res., 1947).
- DENN, Harold Bakon, 353 Fair St., Paterson 1, N.J. (1947) War Dept., clerk, govt. serv.; b. 1909; B.S., 1933, M.A., 1947, New York. Fields 16, 17bc, 14a.
- DENNISON, Eleanor E., 3000 39th St., N.W., Washington 16, D.C. (1943)
- DENT, James K., 2202 Virginia Pk., Detroit 6, Mich. (1947)
- DEPERON, Paul, United Nations, Dept. of Econ. Affairs, Fiscal Div., Lake Success, N.Y. (1947)
- *De PODWIN, Horace John, 150-47 Grand Central Pkwy., Jamaica 2, N.Y. (1946) Newark Col.,

Rutgers Univ., instr., teach., res.; b. 1922; A.B., 1943, Middlebury. Fields 10, 6, 3ac. Res. U.S. price level and U.K. balance of payments, 1945-47.

***DE POUSS**, Jan Willem Oosteinderweg 52, Aalsmeer, Holland. (1948) Research; Bachelor, 1941, Doctor, 1947, Munic. Univ. of Amsterdam; 1947-48, Northwestern. Fields lab, 6, 4. Res. International cartels; theory of underemployment equilibrium.

DERBER, Milton, Bldg. 69 C, Ct. K, Stadium Ter., Champaign, Ill. (1942) Univ. of Illinois, asso. prof. of labor and ind. rela.; Inst. of Labor and Ind. Rela., co-ord.; res., teach.; b. 1915; 1932-33, Springfield (Mass.) Jr. Col.; B.A., 1936, Clark Univ.; M.A., 1937, Ph.D., 1940, Wisconsin. Fields 16, 14, 3ac. Doc. dis. New unionism and collective bargaining. Pub. Chapters in How collective bargaining works (Twentieth Century Fund, 1942); "Money and real weekly earning" (with S. Netreba), Monthly Labor Rev., June, 1947, Res. Labor-management relations, labor legislation, and labor markets.

de **ROOVER**, Raymond, Wells Col., Aurora, N.Y. (1943) Wells College, asso. prof. of econ., teach.; b. 1904; L.S.C.F., 1924, Institut superieur de Commerce, Antwerp; M.B.A., 1938, Harvard; Ph.D., 1943, Chicago. Fields 2a, 1b, 7. Doc. dis. Money, banking, and credit in mediaeval Bruges (Mediaeval Acad. of America, 1948). Pub. The Medic bank: its organization, management, operations, and decline (New York Univ. Press, 1948); "What is dry exchange? A contribution to the study of English mercantilism," J.P.E., Sept., 1944. Res. History of theory of value and price, including monopoly price before Adam Smith; money market with statistics on exchange rates in Middle Ages and sixteenth century. Dir. Dir. of Schol.

DERICK, Samuel Melancthon, Univ. of South Carolina, Columbia 19, S.C. (1946) Univ. of South Carolina, School of Bus. Admin., dean, dept. head, prof. of econ., teach., res.; b. 1896; A.B., 1917, Newberry; M.A., 1920, South Carolina; 1927, Virginia; Ph.D., 1931, North Carolina. Fields 2, 9, 10. Doc. dis. Economic history of South Carolina Railroad (State Co., Columbia, 1930). Pub. Fiscal system of South Carolina (S.C. Plan. Bd., Columbia, 1939); "Manufacturing in South Carolina," in South Carolina: economic and social (Univ. of South Carolina Press, 1944); History of transportation, city of Columbia (R. L. Bryan Co., 1936). Res. Tax system of South Carolina. Dir. W.W. in Amer., in Com. and Ind.

de **SANTAMARIA**, Carlos Sanz, 2400 16th St., N.W., Apt. 401, Washington 9, D.C. (1948)

de **SCHWEINITZ**, Dorothea, 1208 30th St., N.W., Washington 7, D.C. (1928)

de **SCHWEINITZ**, Karl, Jr., Sachemville, 230 Whitney Ave., New Haven 11, Conn. (1946)

DESMOND, Thomas Charles, 94 Broadway, Newburgh, N.Y. (1943)

DESPRES, Emile, College Pl., Williamstown, Mass. (1945) Williams Col., prof. teach., res.; b. 1909; S.B., 1930, 1937-38, Harvard. Fields 10, 6, 7.

***DESROCHERS**, Robert I., Fordham Univ., Spellman Hall, New York 58, N.Y. (1948)

DESSEL, Murray David, 4223 N. 2nd Rd., Arlington, Va. (1946) Bur. of the Census, Ind. Div., Econ. Plan. and Anal. Sec., econ. govt. serv., res.; b. 1917; B.B.A., 1940, City of New York; 1940-48, American. Fields 14a, 5, 15d. Res. Preparation of industrial production, employment, and productivity indexes, through 1947; setting up of "standard metropolitan areas" for federal statistical programs.

d'**ESSIPRI**, Michael, Washington Trust Co., Pittsburgh 19, Pa. (1929)

DETLEFSEN, Guy Robert, Pillsbury Mills, Inc., Pillsbury Bldg., Minneapolis 2, Minn. (1946) Pillsbury Mills, Inc., Com. Res. Dept., mgr., res.; b. 1919; A.B., 1941, Harvard; 1936-37, Univ. of London; 1942-43, Stanford. Fields 11b, 3ac, 12a.

***DETTMAN**, Paul Robert, 105 Forgham Rd., Rochester 12, N.Y. (1947) War Dept., res. anal. govt. serv.; b. 1922; A.B., 1943, Oberlin; A.M., 1948, Harvard. Fields 10, 4b, 2b.

DEUPREE, Robert Gaston, 205 Adair Dr., Adair Gardens, Knoxville, Tenn. (1938)

de **VEGH**, Imrie, 15 Broad St., New York 5, N.Y. (1941) Pell, de Vegh & Co., Inc., sr. vice-pres., bus.; b. 1906; Doctor of Law, 1928, Univ. of Budapest; 1929-30, Trinity Col. (Cambridge, England). Fields 6, 10, 1a. Pub. The pound sterling. (Scudder, Stevens & Clark, 1939); "Imports and income in the U.S. and Canada," Rev. of Econ. Statis., Aug., 1941; "Peace aims, capital requirements, and international lending," A.E.R., May, 1945.

DEVINE, Carl Thomas, 719 Medio St., Long Beach 2, Calif. (1946)

***DEVINE**, Susan H. (Mrs. Carl T.), 719 Medio St., Long Beach 2, Calif. (1946)

De **VOE**, Merrill, Univ. of Kentucky, Col. of Com., Lexington, Ky. (1945) Univ. of Kentucky, asso. prof. of mktg., teach.; b. 1915; B.A., 1937, Ohio Northern; M.B.A., 1938, Northwestern; Ph.D., 1946, Ohio State. Fields 11b, 12a, 3a. Doc. dis. Business and economic problems of local broadcasting stations. Res. Study of Lexington, Ky., market for white bread.

de **VYVER**, Frank Traver, 8 Sylvan Rd., Durham, N.C. (1928)

DEWEY, Anne Elizabeth Huise (Mrs. Lloyd E.), P.O. Box 137, Hampton Bays, N.Y. (1945) Hunter Col., instr., teach.; 1920, West Virginia; B.S., 1927, M.A., 1928, Ed.D., 1936, New York; 1938, Columbia. Fields 13a, 12a. Doc. dis. Financial aspects of professional school admissions (College Recorder, Jan., 1937). Pub. Economic aspects of the New England area. The economy of the Southeast. The future of the Pacific Northwest (reports for U.S. Maritime Com. during war). Res. The Niagara Hudson Corporation and the economy of New York State.

DEWEY, Francis H., Jr., 311 Main St., Worcester, Mass. (1915)

DEWEY, Frederick A., 39 Broadway, New York 6, N.Y. (1913) Business; b. 1887; S.B., 1910, M.I.T.; Ph.D., 1915, Columbia. Field 8b.

***DEWEY**, Lloyd Ellis, P.O. Box 137, Hampton Bays, N.Y. (1945) New York Univ., Dept. of Fin., vice-chmn., prof., teach.; b. 1897; 1915-17, Wisconsin; B.C.S., 1923, B.S., 1925, M.A., 1928, J.D., 1931, New York. Field 8. Pub. Financial budgeting (New York Univ. Press, 1941); Financial handbook (Ronald Press, 1947). Res. Advanced text on corporation finance. Dir. W.W. in Amer.

DEWEY, Ralph Lawrence, 87 W. Pacemont Rd., Columbus 2, Ohio. (1926) Ohio State Univ., Grad. School, asst. dean, prof. of econ., teach., res., edit.; b. 1901; 1919-21, Oberlin; A.B., 1923, A.M., 1924, Ohio State; Ph.D., 1929, Michigan. Fields 13ab, 12, 1a. Doc. dis. Long and short haul principle of rate regulation (Ohio State Univ. Press, 1935). Pub. Telephone utilities in Ohio: rates and financial structure (Ohio State Univ. Press, 1935); "Interterritorial freight rate differences in relation to regionalization of industry," Jour. of Farm Econ., May, 1945; "Maintenance of railroad credit," A.E.R., May, 1946. Res. Economics of air transportation; social and economic aspects of problem of old age. Dir. W.W. in Amer. Dir. of Schol., Lead. in Educa.

DEWHURST, James Frederic, Twentieth Century Fund, 330 W. 42nd St., New York 10, N.Y. (1934)

DEYRUP, Felicia J., 870 Riverside Dr., New York 32, N.Y. (1947)

***DIAMOND**, Arnold Harold, 85 Navy Walk, Brooklyn 1, N.Y. (1948) Col. of City of New York, tutor, teach., res.; b. 1925; B.B.A., 1946, City of New York; M.A., 1947, 1947-48, Columbia. Fields 7, 8ab, 9. Pub. "Lotteries as a substitute for taxes," Bus. Bul., Dec., 1947 (City Col. of New York). Res. The public corporation (doc. dis.).

***DIAMOND**, Harold S., 427 85th St., Brooklyn, N.Y. (1945)

DIAMOND, Herbert Maynard, Lehigh Univ., Bethlehem, Pa. (1943) Lehigh Univ., Dept. of Econ., head, prof. of econ., teach.; b. 1892; B.A., 1914, Ph.D., 1917, Yale. Fields 16, 17ab, 4. Pub.

Editor of rev. ed. of Credits and collections (Ettinger and Golieb) (Prentice-Hall, 1928); Religion and the commonweal (Harper, 1927); Street trading by Connecticut school children (State of Conn., 1920). Dir. W.W. in Amer.

DIAMOND, Jack J., 644 W. 185th St., New York 33, N.Y. (1947) American Export Lines, Inc., statis.; b. 1917; B.S., 1937, M.B.A., 1948, City of New York; 1938-43, Columbia. Fields 3, 2, 13b. Res. U.S. foreign trade with selected countries.

DIAMOND, (Mrs.) Patricia Marie, 427 85th St., Brooklyn, N.Y. (1939)

DIAZ, Manuel Orlando, P.O. Box 65, Univ. of Puerto Rico, Rio Piedras, P.R. (1945) Univ. of Puerto Rico, asst. prof., teach., bus., res.; b. 1919; B.A., 1942, Univ. of Puerto Rico; M.A., 1943, Clark Univ.; 1946-47, Pennsylvania. Fields 8ac, 1ab, 10.

DICE, Charles Amos, Ohio State Univ., Hagerly Hall, Columbus 10, Ohio. (1919) Ohio State Univ., teach., res.; b. 1878; B.A., 1905, Ohio Northern; B.D., 1908, Drew Theol. Sem.; M.A., 1911, Harvard; Ph.D., 1925, Wisconsin. Fields 7, 8b, 1a. Doc. dis. Introduction to an objective theory of consumption. Pub. The stock market (1926, rev. ed. with W. J. Eiteman, 1942), New levels in the stock market (1929) (McGraw-Hill); "A neglected factor in the money supply" (with P. P. Schaffner), A.E.R., June, 1939. Res. Book on money and banking for graduate students. Dir. W.W. in Amer.

DICE, Marion E., Gen. Petroleum Corp. of Calif., 108 W. 2nd St., Los Angeles 12, Calif. (1945)

DICKENS, Albert Edward, 1524 S. Talbot, Apt. 4, Indianapolis, Ind. (1944) Joint Export-Import Agency, Frankfurt, Germany, Chief E.R.P. Plan. Officer, govt. serv.; b. 1904; A.B., 1930, M.S., 1939, Indiana. Fields 15dc, 3c, 14a. Pub. Growth and structure of real property uses in Indianapolis (Indiana Univ. Press, 1939); Industrial planning for Chicago (Chicago Plan Com., 1945); Housing market analysis of Indiana Calumet area (Fed. Housing Admin., 1942). Res. Economics of German reconstruction.

DICKENS, Paul De Witt, 3618 Oval Dr., Alexandria, Va. (1930) Int. Bank for Reconstruction and Development, For. Invest. Div., chief, sr. econ., res.; A.B., 1922, Hiram; M.A., 1927, Ph.D., 1933, George Washington. Fields 10, 8b, 2a. Doc. dis. Transition period in American international finance—1897-1919. Pub. Foreign long-term investments in U.S., 1931-39 (U.S. Dept. of Com., 1940); Census of American-owned assets in foreign countries (1947), Census of foreign-owned assets in the United States (1945) (U.S. Treasury Dept.). Res. Conditions affecting the movement of private foreign capital.

DICKINSON, Frank Greene, 535 N. Dearborn, Chicago 10, Ill. (1923) Amer. Med. Asso., econ. and statis., dept. head, res.; b. 1899; A.B., 1921, Illinois; A.M., 1923, Pennsylvania State Col.; Ph.D., 1927, Illinois. Fields 17, 8c, 3. Doc. dis. Public works and cyclical unemployment (Annals of the Amer. Acad. of Pol. and Soc. Sci., Sept., 1928, Supp.). Pub. The Illinois segment of the nation's economy (Bur. of Bus. Res., Univ. of Illinois, 1940); Analysis of replies to postwar questionnaire (1947), Is medical care expensive (1948) (Amer. Med. Asso.). Res. Medical service areas in the U.S., Economic aspects of group medical practice.

DICKINSON, Zenas Clark, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1920) Univ. of Michigan, prof., teach.; b. 1889; A.B., 1914, Nebraska; Ph.D., 1920, Harvard. Fields 16, 4, 1b. Doc. dis. Economic motives (Harvard Univ. Press, 1922). Pub. Compensating industrial effort (1937), Collective wage determination (1941) (Ronald Press). Res. Work of Fred Manville Taylor, 1858-1932. Dir. W.W. in Amer.

DIEBOLD, William, Jr., 6 Orchard Ter., Piermont, N.Y. (1941) Coun. on For. Rela., econ., res., edit.; b. 1918; B.A., 1937, Swarthmore; 1937-38, Yale; 1938-39, London School of Economics. Fields 10, 12, 2. Pub. New directions in our trade policy (1941), "The American Merchant Marine after

the war," in The U.S. in a multi-national economy (Viner and others) (1945) (Coun. on For. Rela.); "East-West trade and the Marshall Plan," For. Affairs, July, 1948. Res. European economic co-operation under Marshall Plan; areas of conflict between a liberal foreign trade policy and other national policies.

DIECKMAN, William Randolph, 1772 S. State St., Ann Arbor, Mich. (1946) Univ. of Michigan, teach., student, teach.; b. 1913; A.B., 1936, Western State Col. of Colorado; M.A., 1947, Michigan. Fields 13ab, 7, 1ab.

DIECKMANN, Adolf, 2423 Harrison Ave., Cincinnati, Ohio. (1918)

DIETRICH, Ethel Barbara, 351 Linden St., Winnetka, Ill. (1920) Office of Mil. Govt. for Germany U.S., Trade Negotiations, Joint Export-Import Agency, deputy, govt. serv., teach., res.; b. 1891; A.B., 1913, Vassar; A.M., 1914, Ph.D., 1921, Wisconsin. Fields 10, 8a, 12b. Doc. dis. Industrial relations in book and job printing industry (in Industrial management, by John R. Commons, 1922). Pub. World trade (Holt, 1939); Far Eastern trade of U.S. (Inst. of Pacific Rela., 1940); "Textile industry, history of," in Encyclopedia of the Social Sciences, 1932. Dir. W.W. in Amer.

DIETZ, Arthur Townsend, Princeton Univ., Dept. of Econ., Princeton, N.J. (1947) Princeton Univ., instr., teach., res.; b. 1923; B.A., 1946, Wesleyan Univ.; M.A., 1948, Princeton. Fields 8, 12, 7.

DIETZ, John W., 311 East Blvd., Gainesville, Fla. (1941)

DILLARD, Dudley, Univ. of Maryland, Dept. of Econ., College Park, Md. (1941) Univ. of Maryland, prof. of econ.; Columbia Univ., visiting asso. prof. of econ.; teach., res.; b. 1913; B.S., 1935, Ph.D., 1940, California; 1939, Harvard; 1940, Columbia. Fields 1ab, 2, 6. Doc. Dis. Antecedents of Keynes's general theory of employment, interest and money. Pub. "The pragmatic basis of Keynes's Political economy," Jour. of Econ. Hist., Nov., 1946; "The 'Big Inch' pipe lines and the monopoly-competition problem in the petroleum industry," Jour. of Land and Pub. Util. Econ., May, 1944; Res. Development of the modern economic system.

DILLARD, Louisa G. (Mrs. Dudley), Univ. of Maryland, Dept. of Econ., College Park, Md. (1943) Univ. of Maryland, instr., teach., res.; b. 1914; B.A., B.S., 1936, Ohio State; 1938, Southern California; M.A., 1942, Maryland. Fields 1a, 15d, 2a. Res. On two American economists (modern).

DILLEY, James W., 159 Emerson, Palo Alto, Calif. (1947) San Mateo Jr. Col., teach., res.; b. 1912; A.B., 1935, Pomona; S.T.B., Harvard; Ph.D., 1946, California at Los Angeles. Fields 2, 15ade, 4.

DILLINGER, John L., 1725 Orrington Ave., Evanston, Ill. (1946) Northwestern Univ., School of Com., instr. of bus. statis., teach.; b. 1919; B.A., 1939, M.S., 1940, Iowa; A.M., 1947, Harvard. Fields 3a, 17b, 8c.

DIMMLER, George Francis, Columbia Univ., 811 Hamilton Hall, New York 27, N.Y. (1946) Columbia Univ., instr. in econ., teach., res.; b. 1916; A.B., 1936, California; 1937-38, University Col., Oxford; A.M., 1941, Columbia. Fields 5, 1a, 2a. Res. Personal savings in the U.S. (doc. dis.).

DIMOCK, Marshall Edward, Scrivelsby, Bethel, Vt. (1944) Author, lecturer, govt. consul., res., edit., govt. serv., teach.; b. 1903; A.B., 1925, Pomona; Ph.D., 1928, Johns Hopkins. Fields 12, 13, 11a. Doc. dis. Congressional investigating committees (Johns Hopkins Univ. Press, 1929). Pub. British public utilities and national development (Allen & Unwin, London, 1933); The executive in action (Harper, 1945); American government in action (with G. O. Dimock) (Rinehart, 1947). Res. Business and government; principles of public administration; comparative bureaucracy. Dir. W.W. in Amer., Dir. of Schol.

DINGOL, Solomon, 1000 Grand Concourse, New York 56, N.Y. (1936) The Day, edit. Fields 17ab, 4a, 5. Pub. "The Jews," in Immigrant back-

grounds (by H. Fairchild) (Wiley, 1927). Dir. W.W. in East.

DINGWALL, James, Butler Univ., Indianapolis 7, Ind. (1946)

DINIC, Carl Joseph, 262 Ridge Rd., Douglas Manor, L.I., N.Y. (1926) Rheem Mfg. Co., Bus. Res. Dept., mgr., res., bus.; b. 1903; B.S., 1926, California; M.B.A., 1930, Harvard. Fields 11ab, 6, 14a.

DINWIDDIE, George Summey, 317 Baronne St., New Orleans 9, La. (1946) New Orleans Pub. Serv., Inc., econ., bus.; b. 1909; B.B.A., 1937, M.B.A., 1943, Tulane. Fields 13a, 11a, 8a.

DIRKSEN, Francis Cletus, St. Joseph's Col. Collegeville, Ind. (1942) St. Joseph's Col., asso. prof. of econ., teach.; b. 1907; M.A., 1941, Catholic Univ. of Amer.; Ph.D., 1947, Notre Dame. Field lab. Doc. dis. Critical analysis of Richard Hooker's theory of the relation of church and state (Univ. of Notre Dame Press, 1947). Pub. Bibliography of economic books and pamphlets by Catholic authors, 1891-1940 (with P. J. Fitzpatrick) Catholic Univ. Press, 1941; "The Catholic philosopher and Catholic economist," Rev. of Soc. Econ., 1946. Dir. Catholic W.W.

DIRLAM, Joel B., Lincoln University, Pa. (1942) Lincoln Univ., asst. prof., teach.; b. 1915; A.B., 1936, Ph.D., 1947, Yale. Fields 13a, 8b, 12a. Doc. dis. Regulation of security issues under the Public Utility Holding Company Act. Res. Survey of federal control of security issues.

*DISHAW, Ira Hugh, Harvard Univ., 40 Divinity Hall, Cambridge 38, Mass. (1946)

DITMARS, August G., P.O. Box 63, East Patchogue, N.Y. (1939) Esso Standard Oil Co., bus.; b. 1910; 1927-30, Pace Inst., New York; B.S., 1935, M.A., 1938, New York. Fields 11c, 1.

DITMARS, Earl Edward, Univ. of Arkansas, Fayetteville, Ark. (1947) Univ. of Arkansas, asst. prof., teach.; b. 1922; B.S., 1942, Southwest Missouri State Col.; M.S., 1944, 1945-47, North Carolina. Fields 16, 8, 1.

DITTMER, Richard William, 325 Nassau St., Princeton, N.J. (1940) Opinion Research Corp., Public Opinion Index for Industry, asso. editor, res., edit.; b. 1916; A.B., 1938, Colgate; Ph.D., 1943, Yale. Fields 11a, 13a, 12a. Doc. dis. Regulation of the public utility service company. Pub. "Annual wage plans," July, 1943, "Industry and the social science teacher," Apr., 1947, "Company letters to employees," July, 1947, Public Opinion Index for Industry.

DI VENUTI, Biagio, Univ. of Puerto Rico, Rio Piedras, P.R. (1945)

DIVINE, Thomas Francis, Marquette Univ., Milwaukee 3, Wis. (1939) Marquette Univ., Col. of Bus. Admin., dean, Dept. of Econ., head, prof., teach.; b. 1900; A.B., 1923, M.A., 1924, St. Louis; Ph.D., 1938, Univ. of London. Fields 1a, 16, 10. Doc. dis. Theory of interest and concept of social justice. Pub. "Economic science and its relation to social philosophy," Rev. of Soc. Econ., May, 1948; "Derivation of Marshallian curves from Paretian indifference curves," A.E.R., Mar., 1943; Tariffs and world peace (Cath. Asso. for Int. Peace, 1933). Dir. W.W. in Amer., Amer. Cath. W.W.

DIX, Samuel Morris, 29 Lenox Ave., Ridgewood, N.J. (1910)

*DIXON, Harry Mitchell, 1629 Maryland Dr., Urbana, Ill. (1948) Univ. of Illinois, grad. asst., teach.; b. 1919; B.S., 1940, Illinois. Fields 16, 4a, 2a.

DIXON, Roger Coit, 1614 Mount Eagle Pl., Alexandria, Va. (1941) U.S. Dept. of State, Ind. Br. of Int. Resources Div.; govt. serv.; b. 1914; A.B., 1936, M.A., 1939, Ph.D., 1942, Princeton; 1940-41, Brookings. Fields 12a, 10, 13b. Doc. dis. Freight forwarders and their position in transportation field.

DIZMANG, Oscar Kirk, 622 Clark Ave., Billings, Mont. (1931) Munic. Water Unit, Bur. of Reclamation, U.S. Dept. of the Int., reclamation econ., govt. serv., res.; b. 1903; B.S., 1927, Kansas State Col. of Agric.; M.A., 1928, summers, 1930-34, 1941, Chicago. Fields 11ab, 13b, 15abd. Res. Economic position of wheat in the Pacific North-

west with special emphasis on the disposal problems (doc. dis.). Dir. Lead. in Educa.

DOAN, Mason Collins, 2002 W. Jarvis Ave., Chicago 45, Ill. (1944) Public Housing Admin., Region III, rental and occupancy officer, govt. serv.; b. 1913; 1930-32, Fenn Col.; B.S. in C.E., 1934, Ohio Univ.; 1938-41, Chicago. Fields 15e, 17b, 16. Pub. "State labor relations acts," Q.J.E., Aug., 1942.

DOBLIN, Ernest M., 147-51 Charter Rd., Jamaica 2, N.Y. (1943) United Nations, govt. serv.; Doctor, Berlin. Fields 5, 10, 9. Doc. dis. Theorie des Dumping (Jena, 1931). Pub. "Some aspects of price flexibility," Rev. of Econ. Statis., Nov., 1940; "Accounting problems of cartels," Acctg. Rev., July, 1943.

DOBROVOLSKY, Sergei P., Hillside, W. 254 St. and Independence Ave., New York 63, N.Y. (1944) Wayne Univ., asst. prof. of econ.; Nat. Bur. of Econ. Res.; teach., res.; b. 1908; Diploma, 1930, Faculty of Law, Harbin; M.A., 1942, Columbia. Fields 8a, 1a, 6. Pub. "Corporate retained earnings and cyclical fluctuations," A.E.R., Sept., 1945; "Effect of replacement investment on national income and employment," J.P.E., Aug., 1947. Res. Corporate retained earnings: manufacturing corporations, 1914-43.

DOCKERY, James Carlton, 4120 Woodberry St., Hyattsville, Md. (1934) U.S. Dept. of Com., econ.; George Washington Univ., prof. lecturer; govt. serv., res., teach.; b. 1907; B.A., 1929, Ohio Wesleyan; M.A., 1931, Ph.D., 1936, Ohio State. Fields 8ab, 7, 9. Doc. dis. Public utility taxation in Ohio (Ohio State Univ. Press, 1938). Pub. Modern corporation finance (Richard D. Service, 1942, rev. 1948). Res. Investment policies.

DOCKSON, Robert Ray, Rutgers Univ., Dept. of Econ., New Brunswick, N.J. (1945)

DOCKTERMAN, M., c/o AJDC, 2 Blvd. de Lathour-Maubourg, Paris, France. (1948)

DODD, David LeFevre, Columbia Univ., School of Bus., New York 27, N.Y. (1922) Columbia Univ., School of Bus., asso. dean, prof. of fin., teach.; b. 1895; B.S. in Econ., 1920, Pennsylvania; M.S., 1921, Ph.D., 1930, Columbia. Field 8ab. Doc. dis. Stock watering: judicial valuation of property for stock-issue purposes (Columbia Univ. Press, 1930). Pub. Security analysis (McGraw-Hill, 2nd ed., 1940). Dir. W.W. in Amer.

DODD, James Harvey, Mary Washington Col. of the Univ. of Virginia, Fredericksburg, Va. (1943) Mary Washington Col. of the Univ. of Virginia, dept. head, teach.; b. 1892; A.B., 1924, Western Kentucky State Teachers Col.; M.A., 1925, Ph.D., 1928, George Peabody; 1926, Vanderbilt; summer, 1926, Northwestern. Fields 1a, 11a, 2a. Doc. dis. History of production in iron and steel industry in South Appalachian region (Peabody Col., 1928). Pub. Applied economics (1936, 1940, 1945), Economics, principles and applications (with Hasek) (1948) (Southern-Western); First principles of business (with others) (D. C. Heath, 1944). Dir. W.W. in Amer. Educa., Who Knows—and What.

DODD, Paul A., Univ. of California, Dept. of Econ., Los Angeles, Calif. (1929)

*DODGE, Norton Townshend, Telluride Asso., Ithaca, N.Y. (1946) Cornell Univ., student; b. 1927; 1943-45, Deep Springs; A.B., 1948, Cornell Univ.

DOLBEARE, Harwood Burrows, Box 2715, Univ. Sta., Gainesville, Fla. (1923) Univ. of Florida, prof., teach.; b. 1899; A.B., 1921, Wesleyan; 1921-26, Cornell Univ. Fields 7, 8, 10. Pub. Forewarnings of bank failure (Univ. of Florida Bus. Ad. Series, 1931); "Fifty years of state banking in Florida," Southern Banker, 1939; "The banking facilities of Florida," Economic Leaflets (Univ. of Fla.), 1942.

DOLESKY, Frank Louis, 701 W. Dravus St., Seattle 99, Wash. (1942) Pacific Tel. & Tel. Co., acctg. supv., bus.; b. 1916; B.A., 1939, Univ. of Washington. Fields 13c, 11a, 1ac.

DOLEZEL, Karel, Brzezina 33, Brno 16, Czech. (1947)

DOLLEY, James Clay, Univ. of Texas, Austin

- 12, Tex. (1928) Univ. of Texas, vice-pres., prof. of banking, teach., res.; b. 1900; A.B., 1919, McKendree Col.; A.M., 1923, Illinois; Ph.D., 1928, California. Fields 7, 8ab, 10. Doc. dis. Holding company control of light and power industry. Pub. Principles of investment (Harper, 1940); "Common stock-split-ups," Harvard Bus. Rev., Apr., Oct., 1933; "Industrial advance program of the Federal Reserve System," Q.J.E., Feb., 1936. Res. Book on investment analysis. Dir. W.W. in Amer., in Com. and Ind., Lead. in Educa.
- *DOLLYMORE, Nora E., 1609 O St., N.W., Washington, D.C. (1947)
- DOMAR, Evsey David, Johns Hopkins Univ., Dept. of Polit. Econ., Baltimore 15, Md. (1942) Johns Hopkins Univ., asso. prof. of polit. econ., teach., res.; b. 1914; A.B., 1939, California at Los Angeles; A.M., 1941, Michigan; A.M., 1943, Ph.D., 1947, Harvard; summer, 1940, Chicago. Fields 6, 1a, 5. Doc. dis. Essays in economics of expansion. Pub. "Proportional income taxation and risk taking" (with R. A. Musgrave), Q.J.E., May, 1944; "The 'burden' of the debt and national income," Dec., 1944, "Expansion and employment," Mar., 1947, A.E.R. Res. Problem of capital accumulation; economic thought in Soviet Russia. Dir. W.W. in Com. and Ind.
- DONALD, William John, 155 E. 44th St., New York 17, N.Y. (1912) Nat. Elec. Mfrs. Asso., managing dir., bus.; b. 1890; A.B., 1910, McMaster; Ph.D., 1914, Chicago. Field 11a.
- DONALDSON, David Neill, Colorado State Col., Fort Collins, Colo. (1929) Colorado State Col., prof. of econ., teach.; b. 1889; B.S., 1926, M.S., 1927, Kansas State Col.; 1940-41, Stanford. Fields 1ab, 7, 13ab. Pub. Operating practices of farmers co-operatives in Colorado (Bul. 397, 1932); "Do present trends in teaching jeopardize value of research," Jour. of Farm Econ., Nov., 1936. Res. Attempting to simplify an explanation of marginal analysis.
- DONALDSON, Elvin Frank, Ohio State Univ., Hagerly Hall, Columbus 10, Ohio. (1931) Ohio State Univ., prof. of bus. org., teach., res.; b. 1903; B.S., 1925, M.A., 1927, Ph.D., 1933, Ohio State; summers, 1927, Chicago; 1930, 1931, Columbia. Fields 8ab, 7, 11a. Doc. dis. Liability of corporate directors for negligence. Pub. Business organization and procedure (1938), Problems in corporation finance (1940) (McGraw-Hill); Personal finance (Ronald Press, 1948).
- DONALDSON, John, Jr., 601 N. Lake Ave., Avon Park, Fla. (1925) Retired; b. 1892; B.S., 1910, Maryland; Ph.D., 1914, Johns Hopkins. Fields 10, 7, 2b. Doc. dis. International economic relations (Longmans, Green, 1928). Pub. The dollar: a study of national and international monetary economics (Oxford Univ. Press, 1937). Dir. W.W. in Amer., Int. W.W.
- *DONDERO, Lawrence Joseph, 623 Turner Ave., Drexel Hill, Pa. (1947) Fordham Col., instr.; b. 1920; B.A., 1946, La Salle Coll. Fields 1a, 7, 16.
- DONHAM, Wallace Brett, 5 Hilliard St., Cambridge, Mass. (1909)
- DONLEY, W. G., Standard Oil Co. of Calif., P.O. Box 3495, San Francisco 20, Calif. (1947)
- DONNAHOE, Alan Stanley, 3416 Monument Ave., Richmond 21, Va. (1940) Richmond Chamber of Com., asst. exec. mgr., dir. of res.; Univ. of Richmond, lecturer in bus. statis.; bus., res., teach.; b. 1916. Fields 3a, 11, 9. Pub. "Presenting seasonal variation to the business executive," Jour. of Amer. Statis. Assn., Dec., 1946; "Measuring state tax burden," J.P.E., June, 1947; Taxation in Virginia (Richmond Chamber of Com., Dec., 1947). Res. Statistical methods for the business executive.
- DONNELLEY, Thomas Elliott, 350 E. 22nd St., Chicago, Ill. (1934)
- DONNER, Otto, 6301 Brookville Rd., Chevy Chase, Md. (1947)
- DONOHUE, Joseph M., 1517 33rd St., N.W., Washington 7, D.C. (1943)
- DONOVAN, Clement Harold, Box 2093, Univ. Sta., Gainesville, Fla. (1933) Univ. of Florida, prof., teach., res.; b. 1911; B.S., 1931, St. Lawrence Univ.; Ph.D., 1940, North Carolina. Fields 9, 5, 12b. Doc. dis. Readjustment of state and local fiscal relations in North Carolina. Pub. "A decade of federal expenditures in Florida," Jan., 1942, "Can we afford to cut taxes now?" Dec., 1947, Economic Leaflets (Univ. of Florida); "Spread of development corporations," Monthly Review, Fed. Res. Bank of Atlanta, Oct., 1946. Res. Municipal finance in Florida.
- *DONOVAN, Elizabeth Whitbeck (Mrs. Clement H.), Univ. of Florida, Col. of Bus. Admin., Gainesville, Fla. (1941)
- DOODY, Francis Stephen, First Parish Rd., Scituate Center, Mass. (1942) Boston Univ., Col. of Bus. Admin., asst. prof., teach., res.; b. 1917; A.B., 1938, Tufts; A.M., 1940, Harvard. Fields 16, 1a, 6. Pub. "Modern economics and the introductory course" (with R. V. Clemence), A.E.R., 1942. Res. Economic theory; capitalism and labor.
- DOREMUS, William Lohr, New York Univ., School of Com., Washington Sq., New York 3, N.Y. (1946) New York Univ., asst. prof. of mktg., teach.; B.S., 1936, M.B.A., 1938, New York. Field 11b. Pub. Advertising for profit: a guide for small business (Pitman, 1947); "Advertising comes in your size, too," Nat. Furniture Rev., Sept., 1947; "Advertising for the small businessman," Your Business, Oct., 1947-June, 1948. Res. Small business use of newspapers as advertising medium.
- DORFMAN, Joseph, 523 W. 112th St., New York 25, N.Y. (1939) Columbia Univ., prof.; b. 1904; B.A., 1924, Reed Col.; M.A., 1925, Ph.D., 1935, Columbia. Fields 1, 2. Doc. dis. Thorstein Veblen and his America (Viking Press, 1934). Pub. Economic mind in American civilization (Viking Press, 1946); "The 'satire' of Thorstein Veblen's theory of the leisure class," Sept., 1932, "The economic philosophy of Thomas Paine," Sept., 1938, Polit. Sci. Quar. Res. Economic mind in American civilization, 1938-39. Dir. W.W. in Amer.
- *DORFMAN, Robert, 2520 Haste St., Berkeley 4, Calif. (1946)
- DORMAN, Robert Osborne, 722 Asylum Ave., Hartford, Conn. (1946) Conn. State Tax Dept., prin. tax exam., govt. serv.; b. 1912; B.S., 1934, Connecticut. Fields 16, 3c, 11c.
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- DOYLE, J. Fred, Jr., 4846A 28th St., S., Arlington, Va. (1946)
- DOYLE, John C., 5554 Powers Ave., St. Louis, Mo. (1948)
- DOZIER, Howard Douglas, 9409 Columbia Blvd., Silver Spring, Md. (1918)
- DRAISNER, Abe M., 1404 L St., N.W., Washington 5, D.C. (1944) A. M. Draiser, head, bus., govt. serv., res.; b. 1914; B.A. in P.A., 1940, George Washington. Fields 15e, 7, 6.
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- DRESSLER, Boris G., 622 W. 141st St., New York 31, N.Y. (1941) City Col., instr., teach.; Cand. of Eco. Sc., 1913, Kiev Com. Inst.; 1928-30, New York; 1931-33, Columbia. Fields 2b, 15abed, 10. Pub. Manual of economics for teachers and students (Macmillan, 1938); "Developing backward nations," Bus. Bul., Winter, 1942. Res. Foreign trade of U.S.S.R.
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- DRUCKER, Adolf B., 1640 Francisco St., Berkeley 3, Calif. (1939)
- DRURY, Horace B., 5025 Wisconsin Ave., Washington, D.C. (1915)
- DRUTZU, Serban Theodore, 24 North Dr., Malba, L.I., N.Y. (1928)
- Du BRUL, Stephen McKenzie, General Motors Bldg., Detroit 2, Mich. (1933)
- DUCOFF, Louis Joseph, Div. of Farm Population and Rural Life, Bur. of Agric. Econ., U.S. Dept. of Agric., Washington 25, D.C. (1946) Div. of Farm Population and Rural Life, Bur. of Agric. Econ., U.S. Dept. of Agric., prin. labor econ., govt. serv., res.; b. 1909; B.S. 1933, Rutgers; 1936-38, U.S. Dept. of Agric. Grad. School; 1947-48, American. Fields 16, 15, 17. Pub. Wages of agricultural labor in U.S. (U.S. Dept. of Agric., Tech. Bul. No. 895, July, 1945); Labor force definition and measurement; recent experience in U.S. (with M. J. Hagood) (Sec. Sri. Res. Coun., Bul. 56, 1947); "Migratory farm workers in U.S.," Jour. of Farm Econ., Aug., 1947. Res. Economics of labor in agriculture.
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- DUFFY, John Francis, Jr.**, 54 E. 603 St., Shanks Village, Orangeburg, N.Y. (1945) Columbia Univ., student; b. 1914; B.A., 1942, M.A., 1944, California; 1942-44, Pacific School of Religion (Berkeley); B.D., 1946, San Francisco Theol. Sem. Fields 12, 16, 17b. Pub. State organization for fair employment practices (Dec., 1944), Problems of the veteran (with R. W. Binkley, Jr.), (Dec., 1944), State administrative machinery for the conciliation and mediation of labor disputes (Oct., 1945) (Bur. of Pub. Admin., Univ. of California).
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- DUNCAN, Delbert James**, 227 Willard Way, Ithaca, N.Y. (1926) Cornell Univ., prof. of mktg. and dist., teach., res.; b. 1895; B.S., 1918, Utah; M.B.A., 1921, Harvard; Th.D., 1935, Northwestern. Fields 11ab, 12a. Doc. dis. Control of stock shortages in department stores (Harvard Bus. Rev., 1938). Pub. Retailing: principles and methods (with C. F. Phillips) (1941, rev. ed., 1947), Marketing: principles and methods (with C. F. Phillips) (1948) Marketing by manufacturers (contributor) (edited by C. F. Phillips) (1946) (Richard D. Irwin). Dir. W.W. in Amer.
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- DUNCOMBE, Henry Lyon, Jr.**, 4 N. Park St., Hanover, N.H. (1938) Amos Tuck School of Bus. Admin., Dartmouth Col., asst. dean, asst. prof. of bus. statis., teach.; b. 1914; A.B., 1934, Chicago; M.A., 1938, Ph.D., 1948, Northwestern. Fields 16, 3a, 6. Doc. dis. Economic problems presented by an ageing labor force. Pub. "Economic effects of an ageing labor force," Harvard Bus. Rev., 1942. Dir. W.W. in New England.
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- DUNHAM, Scott Henry**, 725 Spruce St., Berkeley 8, Calif. (1934)
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DYCHE, Durward H., Univ. of Texas, Box 2103, Univ. Sta., Austin 12, Tex. (1947) Univ. of Texas, Dept. of Econ., asst. prof. of econ., teach., res.; b. 1920; B.S., 1941, North Texas State Col.; M.A., 1943, Texas; LL.B., 1947, Columbia. Fields 12, 13ab, 8ab. Res. Some personal inefficiencies of

our economic system; long-range effects of the doctrine of Erie Railway Co. vs. Tompkins upon American constitutional law; a program for public subsidization of legal aid work.

DYE, Earl Vincent, 332 Arbor Way, State College, Pa. (1920) Pennsylvania State Col., retired prof.; b. A. 1910, 1916-18, Columbia; 1915-16, Ohio State; 1930-31, Cornell Univ. Fields 7, 1a, 10.

DYE, Howard Spencer, Univ. of Texas, Dept. of Econ., Austin, Tex. (1947) Univ. of Texas, asst. prof., teach.; b. 1920; B.A., 1941, M.A., 1942, 1946-48, Cornell Univ. Fields 7, 10, 2a. Res. Federal banking and monetary legislation, 1930-38 (doc. dis.).

DYER, Lewis Andrew, 50 Federal St., Boston 10, Mass. (1946) fin. statis., commercial and savings banks, invest. advisor, bus.; b. 1892. Fields 8ab, 2a, 10.

DYMOND, William Richard, Cornell Univ., Dept. of Econ., Ithaca, N.Y. (1946) Cornell Univ., teach.; b. 1921; B.A., 1943, M.A., 1946, Toronto. Fields 16, 1a, 17. Pub. "Union-management co-operation at the Toronto factory of Lever Bros.," *Canadian Jour. of Econ. and Polit. Sci.*, Feb., 1947. Res. Labor-management co-operation in selected manufacturing plants.

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EAKIN, Franz, 264 N. Summit, Decatur, Ill. (1936) A. B. Staley Mfg. Co., vice-pres.; Economic Acctg., Inc., pres.; bus., res.; b. 1892. Fields 5, 3c, 11c. Pub. Balance sheet of nation's economy, 1929 (with F. G. Dickinson) (Univ. of Illinois, 1936); Economic activities of people of U.S., 1946—an accounting report (1947), Price problems (1948) (Economic Acctg., Inc.). Res. Accounting measurement of business income; accounting statements of economic data.

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EARLEY, James Stainforth, Univ. of Wisconsin, Sterling Hall, Dept. of Econ., Madison 5, Wis. (1935)

EASON, Warren Wortman, 506 W. 122nd St., New York 27, N.Y. (1948) Columbia Univ., student; b. 1921; A.B., 1947, Columbia. Fields 4, 1, 2.

EASTWOOD, Richard Truman, University, Ala. (1946) Univ. of Alabama, asst. prof.; b. 1912; A.B., 1936, Tarkio Col.; M.A., 1939, Nebraska; 1939-41, Wisconsin. Fields 11a, 16.

EASTWOOD, Robert Parker, Columbia Univ., School of Bus., New York 27, N.Y. (1941) Columbia Univ., asso. prof. of bus. statis., teach., res.; b. 1899; B.S., 1922, M.A., 1923, Nebraska; Ph.D., 1940, Columbia. Fields 3a, 11ab, 6. Doc. dis. Sales control by quantitative methods (Columbia Univ. Press, 1940).

EAVES, Lucile, 41 Clark Rd., Brookline 46, Mass. (1913) Simmons Col., prof. emerita, teach., res.; b. 1869; A.B., 1894, Stanford; 1905-06, Chicago; M.S., 1909, California; Ph.D., 1910, Columbia. Fields 16, 17b, 3a. Doc. dis. History of San Francisco labor movement (Univ. of California, Pub. in Econ., 1910). Dir. W.W. in Amer., in New England, Lead. in Educa.

EBER, Manuel, 1414 E. 59th St., Room 484, Chicago 37, Ill. (1947) Univ. of Chicago, student; b. 1918; A.B., 1940, Rochester; 1945-46, Harvard; 1947-48, Chicago. Fields 16, 7, 1a.

EBERHART, E. Kingman, Col. of Wooster, Dept. of Econ., Wooster, Ohio. (1930) Col. of

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- EBERLY, Charles H., Lower Whitfield St., Guilford, Conn. (1947) Jr. Col. of Com., Evening School, dir., asst. prof., teach., bus.; b. 1911; B.S., 1934, Pennsylvania; 1947-48, Yale. Fields 11ac, lab, 4ab.
- EBY, Barnett Sanford, Rocky Hill, N.J. (1940)
- EBY, Susannah, 3213 Fourth St., N., Arlington, Va. (1948) U.S. Bur. of Budget, fiscal anal., govt. serv.; b. 1924; A.B., 1945, Goucher; M.S., 1947, Wisconsin. Fields 9, 7, 1a.
- *ECK, Sherwood Baker, 6113 Kimbark Ave., Chicago 37, Ill. (1948) Univ. of Chicago, student; b. 1921; B.S. in B.A., 1943, Richmond; M.B.S., 1947, Chicago. Fields 6, 16, 1a.
- *ECKARD, Miriam Beatrice, 1857 Newton St., N.W., Washington 10, D.C. (1947)
- ECKERT, James Bernard, 2513 14th St., N.E., Washington 18, D.C. (1938) U.S. Bur. of Budget, fiscal anal., govt. serv.; b. 1912; A.B., 1934, Oberlin; M.A., 1936, Cincinnati; Ph.D., 1947, Cornell Univ. Fields 7, 12b, 6. Doc. dis. The Reconstruction Finance Corporation, 1932-41. Pub. Problems in price control: pricing standards (editor and contrib.) (Govt. Prtg. Office, May, 1948).
- ECKLER, Al(bert) Ross, 3643 Brandywine St., N.W., Washington, D.C. (1929)
- ECKLES, Elvis L., 1529 Ryan St., Flint 7, Mich. (1948)
- EDDY, Nelson H., Best Foods, Inc., 1 E. 43rd St., New York, N.Y. (1946)
- *EDELMAN, Milton Tobias, Univ. of Illinois, 226 David Kinley Hall, Urbana, Ill. (1947) Univ. of Illinois, asst., teach.; b. 1919; S.B., 1946, Chicago; M.B.A., 1947, Pennsylvania. Fields 16, 12, 3ac.
- EDFELDT, Theodore R., 4115 Wisconsin Ave., N.W., Washington, D.C. (1946)
- EDIE, Lionel Danforth, Lionel D. Edie and Co., 20 Exchange Pl., New York, N.Y. (1924)
- EDMINISTER, Lynn Ramsay, 4314 Klinger St., N.W., Washington 16, D.C. (1923) U.S. Tariff Com., vice-chmn., govt. serv.; b. 1893; A.B., 1916, Harvard; Ph.D., 1930, Brookings. Fields 10, 2a, 12b. Doc. dis. Cattle industry and tariff (Brookings, 1925). Pub. International control of raw materials (co-author) (Brookings, 1930). Dir. W.W. in Amer., in East, in Western Hemisphere, Dir. of Schol., Int. W.W.
- EDMISTON, Henry H., Nat. Life Ins. Co., Montpelier, Vt. (1942)
- EDMUNDS, Stahl William, Northwestern Nat. Life Ins. Co., 430 Oak Grove, Minneapolis 4, Minn. (1945) Northwestern Nat. Life Ins. Co., econ. anal.; Univ. of Minnesota, lecturer; bus., teach., res.; b. 1917; B.B.A., 1939, M.A., 1943, Minnesota. Fields 8c, 7, 11ab. Pub. "Outlets for life insurance investment," Harvard Bus. Rev., Summer, 1947; "Limits of market for ordinary life insurance," Jour. of Mktg., Dec., 1946; "In wholesaling's future—the coming America," Nat. Asso. of Wholesalers, 1948.
- EDWARDS, Allen Braxton, Allegheny Col., Meadville, Pa. (1946) Allegheny Col., asso. prof., teach.; b. 1914; A.B., 1935, Centre Col.; M.A., 1940, Duke; Ph.D., 1944, Virginia. Fields 8ab, lab, 9. Doc. dis. Economics of life insurance investments.
- EDWARDS, Corwin D., 212 S. Pitt St., Alexandria, Va. (1925) Fed. Trade Com., Bur. of Ind. Econ., dir., govt. serv.; b. 1901; A.B., 1920, B.J., 1921, Missouri; Dip. in Econ., 1922, B.Litt., 1929, Oxford Univ.; Ph.D., 1928, Cornell Univ. Fields 12, 11b. Doc. dis. First international workingman's association. Pub. Economic and political aspects of international cartels (Govt. Prtg. Office, 1944); Economic problems in changing world (Farrar & Rinehart, 1936); "Can antitrust laws preserve competition," A.E.R., Mar. sup., 1941. Res. Maintaining competition: requisites of a governmental policy. Dir. W.W. in Amer., Dir. of Schol.
- EDWARDS, Edward Everett, Indiana Univ., Bloomington, Ind. (1946) Indiana Univ., prof., res., teach.; b. 1908; B.S., 1928, M.S., 1934, Indiana. Fields 7, 8a, 4. Pub. Bank taxation in Indiana (1938), Bank personnel (1939) (Ind. Bankers Asso.); Indiana consumer credit agencies (Dept. of Fin. Inst., State of Ind., 1934). Res. Mortgage lending experience of savings and loan associations.
- EDWARDS, Ford K., 4841 Rodman St., N.W., Washington, D.C. (1946) Govt. serv., dept. head, res.; b. 1901; B.S., 1925, Ohio State; M.A., 1927, Ph.D., 1933, Yale. Fields 13b, 12b, 14c. Doc. dis. Study of economic basis for highway carrier regulation. Pub. Principles of motor transportation (McGraw-Hill, 1934); "Cost analysis in transportation," A.E.R., May, 1947; Rail freight service costs in various rate territories of U.S. (Senate Doc. No. 63, 78th Cong., 1st sess., 1943).
- EDWARDS, George William, 15 Columbia Ave., Hartsdale, N.Y. (1922)
- EDWARDS, James Douglas, 80 William St., New York 7, N.Y. (1947) Self-employed, public accountant, bus.; b. 1883. Fields 11ac, 5.
- EDWARDS, Richard Elbert, 50 N. Hood St., Peru, Ind. (1914)
- EDWARDS, Walter Robert, 3009 30th St., S.E., Washington 20, D.C. (1947) U.S. Dept. of Labor, govt. serv.; b. 1911; A.B., 1941, 1946-48, George Washington. Fields 16, 1a, 4a. Res. Survey of labor productivity studies.
- EDWARDS, Wendell O., 16 Geddes Heights, Ann Arbor, Mich. (1946)
- EELLS, Le Clair H., 549 River Ave., South Bend 6, Ind. (1946)
- EFFINGER, R(ober) Craig, Irving Trust Co., 1 Wall St., New York, N.Y. (1915)
- EFROSS, Sidney T., 128 Webster St., N.W., Washington 11, D.C. (1946) Columbia Univ., student; b. 1923; B.A., 1943, Maryland; M.A., 1948, Columbia. Fields 4ab, 12a, 2a.
- EFROYMSON, Clarence Walter, R. R., Carmel Ind. (1938) Butler Univ., prof., teach., bus.; b. 1897; A.B., 1918, Harvard; Ph.D., 1932, Univ. of Vienna. Fields 1a, 2a, 4. Doc. dis. Die Beziehungen Oesterreich-Amerikas Während des Vormärz, Pub. "A note on kinked demand curves," A.E.R., Mar., 1943; "An Austrian diplomat in America, 1840," Amer. Hist. Rev., Apr., 1936. Res. Economic basis of collective settlements in Palestine.
- EGAN, Joseph John, 595 E. 42nd St., Brooklyn 3, N.Y. (1947)
- EGAND, Leo Maurice, 2284 Grand Ave., New York 53, N.Y. (1943) United Nations, Dept. of Econ. Affairs, Econ. Affairs Office, govt. serv.; b. 1920; A.B., 1942, New York; A.M., 1943, Columbia. Fields 10, 4, 2.
- EGEKVIST, W. S., 1400 S. Seventh St., Minneapolis, Minn. (1947)
- EGGERS, Melvin A., 107 Vineyard Rd., Hamden, Conn. (1947)
- EGHERMAN, Harvey Martin, 2376 Fairview Ave., Cincinnati 19, Ohio. (1940) Allen's, Inc., mgr., bus.; b. 1918; A.B., 1939, A.M., 1940, Cincinnati; 1940-42, Cornell Univ. Fields 9, 1a, 7.
- EGLE, Walter Paul, Univ. of Cincinnati, Dept. of Econ., Cincinnati, Ohio. (1935) Univ. of Cincinnati, prof., teach., res.; b. 1904; Ph.D., 1930, Freiburg. Fields 7, 10, 5. Doc. dis. Neutral money (Fischer, Jena, 1933). Pub. Germany's foreign trade after World War I (Inst. for World Econ., Kiel, 1932); "Saving, investment, and crisis,"

J.P.E., 1935; "Monetary conditions of economic stability," A.E.R., 1938. Res. Economic stabilization.

*EHRENREICH, Joseph Willard, 5658 Cleon Ave., North Hollywood, Calif. (1947) U.S. Dept. of Com., econ. (on leave); Univ. of Southern California, lecturer; res., teach.; b. 1920; B.B.A., 1940, City of New York; 1940-41, New York; M.B.A., 1948, Southern California. Fields 11b, 3a, 14. Res. Use of statistical methods in determining sales effect of a rapid transit system upon movement of potentials; retail trade within the Los Angeles metropolitan market.

EHRHORN, Oscar W., 70 Pine St., Suite 808, New York 5, N.Y. (1909)

EHRICKE, Karl Nicholas, Thomas A. Edison, Inc., Orange, N.J. (1941)

EHRlich, Otto H., 123 W. 74th St., New York 23, N.Y. (1941) New York Univ., visiting asst. prof., teach., res.; b. 1892; Dr. in Legal and Soc. Sci., 1919, Univ. of Vienna. Fields 13b, 1a, 7. Pub. Poll of public opinion on central terminal in Brooklyn (processed by Port of New York Authority, 1946); Uncle Sam versus inflation (Harper, 1943); Planning jobs and jobs in planning (Bellman, Boston, 1945). Res. Significance for commercial aviation of ground transportation to airports, with exploration into money value of time. Dir. W.W. in East.

*EINAUDI, Luigi, c/o Mr. Mario Einaudi, Cornell Univ., Dept. of Govt., Ithaca, N.Y. (1926)

ENZIG, R., 13133 La Salle Blvd., Detroit 6, Mich. (1946)

EISENBERG, Gerson Gutman, 1605 Court Square Bldg., Baltimore 2, Md. (1941)

EISENBERG, Walter L., 268 Linden Blvd., Brooklyn 26, N.Y. (1944) Rutgers Univ., Univ. Col., lecturer, teach., res.; b. 1920; B.S.S., 1941, City of New York; M.A., 1946, 1946-48, Columbia. Fields 16, 1ab, 2a. Res. History and evaluation of American sit-down experience.

EITEMAN, Wilford John, Univ. of Michigan, School of Bus. Admin., Ann Arbor, Mich. (1929) Univ. of Michigan, School of Bus. Admin., asso. prof. of fin., teach.; A.B., 1926, M.A., 1928, Ohio Wesleyan; Ph.D., 1931, Ohio State. Fields 8ab, 1a, 7. Doc. dis. Theory of stock prices. Pub. Stock market (McGraw-Hill, 1940); Corporation finance (Amer. Bankers' Assn., 1948); "Factors determining least cost point," A.E.R., Dec., 1947. Res. Formulation of new theory explaining how business managers determine prices and output. Dir. W.W. in Amer., Dir. of Schol., Who Knows—and What.

EKEBLAD, Frederick Alfred, Univ. of Connecticut, School of Bus. Admin., Storrs, Conn. (1942) Univ. of Connecticut, School of Bus. Admin., asst. prof., teach.; b. 1917; A.B., 1938, M.A., 1941, Brown; Ph.D., 1947, Northwestern. Fields 3a, 6, 11bc. Doc. dis. Government lending to railroads in decade of thirties.

EKLAND, Leonard Martin, 18260 Northlawn Ave., Detroit 21, Mich. (1931)

ELAM, Burton Norwood, 2125 State Col. Sta., Fargo, N.D. (1948) North Dakota Agric. Col., asst. prof., teach., b. 1906; B.S., 1935, M.A., 1939, George Peabody Col.; summers, 1945, 1947, 1948, Chicago. Fields 1ab, 7, 16. Pub. "Vocational guidance vitalized," Va. Jour. of Educa., June, 1939; "Student guidance in business education," Modern Bus. Educa., June, 1939.

ELCHIBEGOFF, Ivan M., 4206 Kaywood Dr., Mt. Rainier, Md. (1945)

ELDEAN, Fred A., 670 Fifth Ave., New York 20, N.Y. (1938)

ELDER, Ivan W., 4213 N.E. 32nd Pl., Portland 11, Ore. (1945) Multnomah County, Ore., asst. to Bd. of County Commissioners, govt. serv.; b. 1893; A.B., 1918, Reed. Fields 9, 1, 5.

ELDER, Robert Fairchild, 32 Peirce Rd., Wellesley Hills, Mass. (1930)

*ELDRIDGE, Douglas H., 10417 S. Morgan St., Chicago 43, Ill. (1946) Univ. of Chicago, student; b. 1916; B.A., 1937, M.B.A., 1941, Univ. of Washington; M.A., 1948, Chicago. Fields 9, 1a, 7. Pub.

"Determination of property taxes in Washington," Wash. Law Rev. and State Bar Jour., Jan., 1941; "War and state sales taxes," July, 1942, "Federal tax anticipation notes," Oct., 1942, Taxes—The Tax Mag. Res. Federal income taxation of exhaustible resources (doc. dis.).

ELDRIDGE, John Grady, Box 2627, Univ. Sta., Gainesville, Fla. (1927) Univ. of Florida, prof. of econ., teach.; A.B., 1917, A.M., 1923, North Carolina; 1927-28, Columbia; 1929, Virginia. Fields 1ab, 9, 10. Pub. Valuation of real estate for tax purposes in Florida (Univ. of Florida Press, 1930); "Teaching economics," A.E.R., 1937; "Cycles of prosperity and depression," Econ. Leaflets (Univ. of Florida), 1946. Res. Early railroad and banking projects in Florida.

ELDRIDGE, Lynn Edwin, 4924 Albemarle St., N.W., Washington 16, D.C., (1942)

ELIOT, Clara, Barnard Col., New York 27, N.Y. (1922)

ELIOT, Howard M., 2360 Washington Rd., Lansing 15, Mich. (1947)

ELISE, Sister Mary, Briar Cliff Col., Sioux City, Iowa. (1947)

*ELLENBERG, Martin, 1500 Longfellow Ave., Bronx, New York 60, N.Y. (1948) Columbia Univ., student; b. 1927; B.S. in S.S., 1948, City of New York; 1948, Columbia. Fields 16, 17b, 2a. Res. Union policies regarding technological change (master's thesis).

*ELLENBOGEN, Jack, 819 W. Dayton St., Madison 5, Wis. (1947)

**ELLICTION, J. C., 3420 McKinley St., N.W., Washington 15, D.C. (1945)

ELLICTION, Katherine Pollak (Mrs. J. C.), 3420 McKinley St., N.W., Washington 15, D.C. (1945)

ELLIOTT, Curtis Miller, Univ. of Nebraska, Dept. of Econ., Lincoln, Neb. (1936)

ELLIOTT, Edith Ann, Univ. of Cincinnati, Col. of Bus. Admin., Cincinnati 21, Ohio. (1941) Univ. of Cincinnati, instr. in econ., teach.; b. 1915; Com. Engr., 1938, Cincinnati; 1938-42, Chicago. Fields 8a, 1a, 3.

ELLIOTT, George Alexander, Univ. of Toronto, Dept. of Polit. Econ., Toronto, Ont., Canada. (1926) Univ. of Toronto, prof., teach., res., edit.; b. 1901; B.A., 1920, M.A., 1924, Manitoba; 1926-28, Chicago. Fields 1, 10, 7. Pub. "Transfer of means of payment and terms of trade," 1936, "Significance of general theory of employment, interest, and money," 1948, Canadian Jour. of Econ. and Polit. Sci.; "Canadian monetary policy," Proceed., Canadian Polit. Sci. Assn., 1934. Res. Protective effects of customs administration.

ELLIOTT, Margaret, Univ. of Michigan, School of Bus. Admin., Ann Arbor, Mich. (1925)

ELLIOTT, Robert D., Bowdoin Col., Dept. of Econ., Brunswick, Me. (1947)

ELLIS, Howard Sylvester, 936 Cragmont Ave., Berkeley 8, Calif. (1930) Univ. of California, prof., teach., res.; b. 1898; B.A., 1920, Iowa; M.A., 1922, Michigan; 1924-25, Univ. of Heidelberg; Ph.D., 1929, Harvard. Fields 10, 7, 1a. Doc. dis. German monetary theory, 1905-33 (Harvard Univ. Press, 1934). Pub. Exchange control in Central Europe (Harvard Univ. Press, 1941); Financing American prosperity (with others) (Twentieth Century Fund, 1945); Survey of contemporary economics (editor) (Blakiston, 1948). Res. International payments of free and controlled economies. Dir. W.W. in Amer.

ELLIS, Paul Warren, Univ. of Oregon, Dept. of Econ., Eugene, Ore. (1937) Univ. of Oregon, asso. prof., teach., res.; b. 1903; 1923-26, Albany Col.; A.B., 1931, Willamette Univ.; M.A., 1933, Oregon; Ph.D., 1943, Columbia. Fields 5, 9, 14a. Doc. dis. Effects of taxes on corporate policy (Nat. Ind. Conf. Bd., 1943). Pub. World's biggest business: American government spending, 1914-44 (1944), Tax relief under Section 722 (1945) (Nat. Ind. Conf. Bd.); "Profits, wages, and full employment policy," Ore. Bus. Rev., July, 1947. Res. Oregon tax system; economics curricula in American graduate schools; the Economic Reports and full

employment policy. Dir. W.W. in Educa., on Pacific Coast, Who Knows—and What, Int. W.W. (monthly sum.).

ELLIS, Ray George, 14 Myrtle Ave., Springville, N.Y. (1921)

ELLIS, Richard Karl, 715 N. Main St., Mt. Pleasant, Ia. (1945) Iowa Wesleyan Col., dean, prof. of econ., teach.; b. 1897; B.A., 1920, Iowa Wesleyan; Ph.D., 1930, Iowa. Fields 7, 3a, 11a. Doc. dis. Savings institutions and growth of capital. Pub. Business statistics (Swift & Co., 1936); Workbook in business statistics (Wiley, 1941).

ELLSWORTH, Heber Michael, Safeway Stores, P.O. Box 660, 4th and Jackson Sts., Oakland 4, Calif. (1944)

ELLSWORTH, J(ohn) Orval, Denver Univ., 211 15th St., Denver 2, Colo. (1925) Denver Univ., teach.; b. 1891; 1917, Utah State Agric. Col.; M.S., 1924, Ph.D., 1926, Cornell Univ. Fields 11b, 1a, 3b. Doc. dis. Marketing of sugar with special function of New York Sugar Exchange (abstract, Cornell Univ., 1926). Pub. Types of farming in Oklahoma (1927), Combined harvester on Oklahoma farms (1928) (Okla. Exp. Sta.). Dir. W.W. in Amer., Dir. of Schol.

ELLSWORTH, Paul Theodore, Univ. of Wisconsin, Dept. of Econ., Madison, Wis. (1928)

ELLSWORTH, Von Theurer, 2223 Fulton St., Berkeley 4, Calif. (1929) Calif. Farm Bur. Fed., dept. head, res.; b. 1896; B.S., M.A., 1924, Utah Agric. Col.; Ph.D., 1934, California. Fields 9, 15b, lab. Doc. dis. Property tax in California, with emphasis on its relation to agriculture. Pub. New taxes to meet school costs (Nat. Tax Asso., 1932); Personal income tax and education equalization program of California Farm Bureau Federation (Sierra Educa. News, Calif., 1932); Bank and corporation franchise tax act of 1929 (Calif. Farm Bur. Fed., 1931). Res. Finance and administration of sanitation districts; financing of roads and highways in California. Dir. W.W. in Calif.

*ELPERIN, Ronald Herman, 74 B. Badger, Wis. (1948) Univ. of Wisconsin, instr., teach.; b. 1913; B.A., 1939, M.A., 1948, Wisconsin. Fields 16, 1a, 7.

ELSASSER, Robert William, 8004 Freret St., New Orleans 18, La. (1925) Mgt., econ., statis. anal., bus.; b. 1900; A.B., 1921, M.C.S., 1922, Dartmouth. Fields 11a, 6, 12. Pub. "Basic principles of business management," Amer. Hosp. Asso., 9th Inst. for Hosp. Admin., 1941; "Administrative approach to changing aspects of organization and management," Amer. Col. of Hosp. Admin. News, Nov., 1941; "Impact of positive personnel program," Southern Hosp., July, 1947. Res. Tools and techniques of management.

ELWELL, Fayette Herbert, Univ. of Wisconsin, Sterling Hall, Madison 6, Wis. (1911) Univ. of Wisconsin, School of Com., dean; b. 1885; B.A., 1908, Wisconsin. Field 11c. Pub. Elementary accounting for colleges (1945), Personal and business record keeping (with E. A. Zelliot and H. I. Good) (1938) (Ginn); Brewery accounting (U. S. Brewers Asso., 1934). Dir. W.W. in Amer., Lead. in Educa.

ELY, J. Edward, 2819 Hillcrest Dr., S.E., Washington, D.C. (1931) U.S. Bur. of Census, For. Trade Div., chief, govt. serv.; b. 1907; B.S., 1930, M.A., 1931, Wesleyan Univ. (Conn.); Ph.D., 1940, Yale. Fields 10, 15c, 12b. Doc. dis. Labor productivity in Illinois underground coal mining. Dir. Dir. of Schol.

ELY, Margaret H. (Mrs. Richard T.), 107 Nameaug Ave., New London, Conn. (1944) Connecticut Col. for Women, asst. prof., teach., res.; b. 1899; B.S., 1923, Northwestern; A.M., 1947, Yale. Fields 2a, 7, lab.

ELY, Roy J. W., Montana State Univ., Missoula, Mont. (1928)

EMERSON, Hugh N., Moylan Ave. and Forest St., Moylan, Pa. (1947)

EMMER, Robert E., 1000 Park Ave., Utica, N.Y. (1947)

EMMET, Boris, 55 W. 13th St., New York, N.Y. (1919)

ENDLER, Oscar Lewis, 4404 46th St., N.W., Washington 16, D.C. (1940)

*ENG, Edward Jang, 1640 Mason St., San Francisco, Calif. (1948)

ENGLE, Nathanael Howard, Univ. of Washington, Commerce Hall, Seattle 5, Wash. (1925) Univ. of Washington, dir. of bus. res., prof. of econ., dept. head, res., teach.; A.B., 1925, A.M., 1926, Univ. of Washington; Ph.D., 1929, Michigan. Fields 11b, 3c, 10. Doc. dis. Competitive forces in wholesale marketing of prepared food products (Nat. Wholesale Grocers Asso., 1929). Pub. Wholesaling, principles and practices (with T. N. Beckman) (Ronald Press, 1937); Aluminum (with I. E. Gregory and K. Mossé) (Richard D. Irwin, 1944); If men want peace (co-editor, co-author) (Macmillan, 1946). Res. Revision of Wholesaling; Seattle housing market; Pacific Northwest regional economy. Dir. W.W. in Amer., Dir. of Schol.

ENGLISH, Donald, Cornell Univ., Ithaca, N.Y. (1911)

*ENGLISH, Harry E., Univ. of California, Dept. of Econ., Berkeley 4, Calif. (1947)

ENKE, Stephen, Univ. of California, Dept. of Econ., Los Angeles, Calif. (1940) Univ. of California, lecturer; Rand Corp.; res., teach.; b. 1916; A.B., 1937, A.M., 1939, Stanford; M.P.A., 1940, Ph.D., 1943, Harvard. Fields 1ab, 10, 3ac. Doc. dis. Monopolistic competition and general welfare. Pub. "Monopsony case for tariffs," Q.J.E., Feb., 1944; International economics (Prentice-Hall, 1947); "Economic efficiency and consumer cooperatives," A.E.R., Mar., 1945. Res. Economic theory.

ENNIS, J(ames) Harold, Cornell Col., Mt. Vernon, Iowa. (1925)

ENRICO, Raúl Antonio, Jujuy 313, Dto. L., Buenos Aires, Argentina, S. Amer. (1947) Banco Central de la República Argentina, officer, govt. serv., res.; b. 1918; Public Accountant, 1942, Univ. de Buenos Aires. Fields 10, 7, 11c.

ENSLEY, Grover William, 5122 N. 24th St., Arlington, Va. (1942) Technical advisor to Sen. R. E. Flanders; George Washington Univ., lecturer in econ.; govt. serv., teach.; b. 1915; B.A., 1937, M.B.A., 1938, Univ. of Washington; M.S., 1940, Denver; Ph.D., 1947, New York. Fields 9, 12b, 5. Doc. dis. Nation's budget and federal government's budget. Pub. "A budget for nation," Soc. Res., Sept., 1943; "The ten-billion dollar question," in Winning plans in Fabst postwar employment awards (Fabst Brewing Co., 1944); Role of budgeting in government (Tax Found., 1941). Res. Housing; federal pay rates; workings of Employment Act of 1946.

ENTES, Jack M., 219 E. 97th St., New York, N.Y. (1947) Insurance broker, bus., teach., govt. serv.; b. 1919; B.B.A., 1940, City of New York; 1946-47, Columbia. Fields 5, 10, 16.

EPPSTON, Harold Arthur, 267 Beech Spring Rd., South Orange, N.J. (1944) Fed. tax consult.; New York Univ., lecturer in taxation; bus., teach.; B.C.S., 1918, B.S., 1922, M.C.S., 1924, New York; LL.B., 1922, Fordham; 1936-42, New School for Soc. Res. Fields 11c 9, 7. Pub. "Accounting in evolution," Acctg. Rev., 1940; "Process costs," Jour. of Accountancy, 1920.

EPSTEIN, Joseph B., 1841 Summit Pl., N.W., Washington 9, D.C. (1946)

EPSTEIN, Ralph Cecil, 41 Irving Pl., Buffalo 1, N.Y. (1922) Univ. of Buffalo, dept. head, prof., teach., res.; b. 1899; A.B., 1921, Columbia; A.M., 1925, Ph.D., 1926, Harvard. Fields 6, 1a, 14a. Doc. dis. Development of automobile industry. Pub. Automobile industry: its economic and commercial development (A. W. Shaw Co., 1928); Industrial profits in U.S. (Nat. Bur. of Econ. Res., 1934); "Industrial invention: heroic or systematic?" Q.J.E., Feb., 1926. Res. Twenty-five year study of profits; prosperity and depression. Dir. W.W. in Amer., in East, in New York, Dir. of Schol., Int., W.W.

ERDMAN, Henry Ernst, Univ. of California, Div. of Agric. Econ., Berkeley 4, Calif. (1918) Univ. of California, prof., teach., res.; b. 1884; B.S., 1912, South Dakota State Col.; Ph.D., 1920, Wisconsin. Fields 11b, 4c, 15b. Doc. dis. Marketing of whole milk (Macmillan, 1921). Pub. American produce markets (Heath, 1928); Possibilities and limitations of co-operative marketing (Calif. Agric. Exp. Sta. Cir. 298, rev. 1942); "Appraisal of movement to increase industrial uses of farm products," Scientific Agric. (Canada), Sept., 1939. Res. Marketing of western farm products. Dir. W.W. in Amer.

ERDMANN, Herbert H., 4142 Central Ave., Western Springs, Ill. (1932)

ERICKSON, Arthur Edward, Luther L. Wright High School, Ironwood, Mich. (1926)

ERICKSON, Roland Axel, 104 Forest St., Worcester 5, Mass. (1937) Guaranty Bank and Trust Co., pres., bus.; b. 1913; A.B., 1935, Clark Univ.; M.A., 1937, Tufts. Fields 7, 8, 11.

ERION, G. L., Syracuse Univ., Dept. of Econ., Syracuse, N.Y. (1946)

ERLICH, Alexander, 61 W. 106th St., New York 25, N.Y. (1948)

ERLON, Leo A., Col. of St. Thomas, St. Paul, Minn. (1946)

ERSELCUK, Muzaffer, 2238 Union St., Lafayette, Ind. (1946)

*ERTELL, Merton William, Univ. of Buffalo, School of Bus. Admin., Buffalo 14, N.Y. (1946) Univ. of Buffalo, School of Bus. Admin., acting asst. dean, lecturer in econ., dept. head, teach.; b. 1918; B.S., 1938, Buffalo. Fields 16, 6, 11a. Res. Guaranteed wages.

ESKILDSON, Hugo N., 601 E. 20th St., New York 10, N.Y. (1941) Airlines Negotiating Conf., econ. anal., res.; b. 1918; B.S. in Com., 1940, Denver. Fields 16, 13b, 7.

ESTABROOK, Vincent Taft, 25 Varick Rd., Waban, Mass. (1940)

ESTEVE, Vernon Rafael, 654 Calle Union, Santurce, P.R. (1947) Univ. of Puerto Rico, asst. prof., teach., res.; b. 1920; B.A., 1942, Puerto Rico; M.A., 1944, Harvard. Fields 4ab, 1ab, 10. Res. Analysis of economic policy for Puerto Rico (doc. dis.).

ESTEY, James Arthur, 230 Russell St., West Lafayette, Ind. (1916) Purdue Univ., Dept. of Hist. Econ. and Govt., head, prof. of econ., teach.; b. 1886; B.A., 1907, Acadia Univ.; B.A., 1909, Oxford Univ.; Ph.D., 1911, Wisconsin. Fields 1ab, 6, 4b. Doc. dis. Revolutionary syndicalism (P. S. King, London, 1913). Pub. The labor problem (McGraw-Hill, 1928); Business Cycles (Prentice-Hall, 1941). Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

ESTEY, Marten Sutherland, 5008 V St., N.W., Washington 7, D.C. (1943) Cornell Univ., School of Ind. and Labor Rel., asst. prof., res., teach.; b. 1918; B.S., 1940, Purdue; M.A., 1947, Princeton. Fields 16, 14c, 6. Res. Collective bargaining in retail trade, 1935-47 (doc. dis., Princeton).

ESTREM, Thomas Sabin, 50 S. La Salle St., Chicago 90, Ill. (1943) Northern Trust Co., vice-pres.; b. 1894; B.A., 1917, Minnesota; M.B.A., 1921, Harvard. Fields 7, 8b, 9. Dir. W.W. in Chicago.

ESTRIN, Jack C., 756 Pelham Pkwy., New York 60, N.Y. (1946)

ETHE, Solomon, 255 E. Seventh St., New York 9, N.Y. (1948) General Aniline and Film Corp., statis., bus., res.; b. 1924; B.B.A., 1944, City of New York; M.A., 1947, Columbia. Fields 3c, 6, 11.

ETZLER, C. David, Univ. of Dayton, Dept. of Bus., Dayton 9, Ohio. (1947)

EUCHARIA, Sister Maria, Saint Joseph's Col. for Women, 245 Clinton Ave., Brooklyn 5, N.Y. (1946)

EULENBERG, Alexander, 110 S. Dearborn St., Chicago, Ill. (1941)

EVANS, George Heberton, Jr., Johns Hopkins Univ., Baltimore 18, Md. (1927) Johns Hopkins Univ., Dept. of Polit. Econ., dept. head, prof. of polit. econ., teach., res.; b. 1900; A.B., 1920, Ph.D., 1925, Johns Hopkins. Fields 2a, 1a, 8b. Doc. dis.

Apartment rents in Baltimore, 1917-23. Pub. British corporation finance, 1775-1850: a study of preference shares (Johns Hopkins Press, 1936); Principles of investment (Houghton Mifflin, 1940); Business incorporations in U.S., 1800-1943 (Nat. Bur. of Econ. Res., 1948). Res. History of American corporation. Dir. W.W. in Amer., in East, Dir. of Schol., Who Knows—and What.

*EVANS, Madeline L., 345 Humboldt St., Denver 3, Colo. (1948) Colorado Woman's Col., instr., teach.; b. 1921; B.S., 1942, New York State Col. for Teachers; M.B.A., 1948, Denver. Fields 11c, 1, 4.

EVANS, Marvin L., Box 203, Middleton, Wis. (1948)

EVANS, (Mrs.) Patricia F., 4406 Greenwich Pkwy., Washington 7, D.C. (1945)

EVANS, Roger Flagg, 4430 Tibbett Ave., New York, N.Y. (1942)

EVANS, Wilmoth Duane, 409 N. George Mason Dr., Arlington, Va. (1941) U.S. Bur. of Labor Statis., Productivity Br., chief, govt. serv., res., teach.; b. 1909; B.S., 1930, Clarkson Col. of Tech. Fields 3, 5, 16. Pub. "Full employment patterns—1950" (with J. Cornfield and M. Hoffenberg) (1947), Mechanization and productivity of labor in cigar manufacturing industry (1939) (U. S. Bur. of Labor Statis.); Motion picture industry (with D. Bertrand and E. Blanchard) (TNEC Mono. No. 43, 1941). Res. Productivity in industries of U.S.; interindustry relationships in U.S.

EVANT, A. Theodore, 35-36 76th St., Jackson Heights, L.I., N.Y. (1947) Utilities Distributors, Inc., comptroller, dept. head, bus.; b. 1907; attended Columbia, New York Univ. Fields 11, 3, 8ac. Res. Economics of truck operation.

EVERETT, Winthrop Edward, 8 Girard Ave., Lancaster, Pa. (1944) Franklin and Marshall Col., asst. prof.; b. 1907; B.S., 1927, Franklin and Marshall; A.M., 1932, Chicago; 1940-44, Pennsylvania. Fields 7, 1, 11c. Res. Bank earnings, their behavior and significance (doc. dis., Univ. of Pennsylvania).

EWART, Park James, 3011 Queensbury Dr., Los Angeles 34, Calif. (1934) Univ. of Southern California, Dept. of Gen. Bus., dept. head, teach., res.; attended Pomona Col., Harvard, Southern California. Fields 3ac, 6, 11b. Pub. "California leads way in small loan legislation," Southern Calif. Law Rev., Feb., 1947. Res. Mathematics of finance; instalment finance. Dir. W.W. in Educa.

EWING, Arthur Ferguson, 38, Southway, London, N.W. 11, England. (1946) Ministry of Works, asst. secy., govt. serv., res.; b. 1915; B.A., 1937, Queen's Col., Oxford; 1938-39, London School of Econ. Fields 12, 1, 4. Res. Theory of distribution, with special reference to profit.

EWING, John Bertwell, 1629 Columbia Rd., N.W., Washington 9, D.C. (1926) U.S. Employ. Serv., econ. govt. serv., res., edit.; b. 1893; A.B., 1916, William Jewell Col.; A.M., 1917, Washington Univ.; Ph.D., 1931, Wisconsin. Fields 16, 17ab, 2a. Doc. dis. Job insurance (Univ. of Oklahoma Press, 1933). Pub. "Quest for security," Dec., 1946, "Unemployment compensation in southwestern states," Dec., 1947, Southwestern Soc. Sci. Quar.; "Milwaukee advisory council since 1911," Employ. Serv. Rev., Dec., 1939.

EXTER, John Edward, 2540 Military Rd., Arlington, Va. (1942) Fed. Res. Bd., econ., govt. serv., res.; b. 1910; B.A., 1932, Col. of Wooster; M.A., 1934, Fletcher School of Law and Diplomacy. Fields 7, 10, 6. Pub. "War, radar and radio industry," Harvard Bus. Rev., Winter, 1946.

EZEKIEL, Mordecai, 5000 Allandale Rd., Washington 16, D.C. (1924) Food and Agric. Organ., United Nations, econ., govt. serv.; b. 1899; B.S., 1918, Maryland; M.S., 1923, Minnesota; Ph.D., 1927, Brookings. Fields 15b, 3ab, 4b. Doc. dis. Factors affecting price of lamb (J.P.E., 1927). Pub. Methods of correlation analysis (Wiley, 1929, 1940); \$2500 a year (Harcourt, Brace, 1936); Toward world prosperity (Harper, 1947). Res. Factors affecting international demand for farm products. Dir. W.W. in Amer., Dir. of Schol., Int. W.W.

- FABER, Frederic Lewis**, 210-C N. Glebe Rd., Arlington, Va. (1943) U.S. Dept. of Agric., agric. econ., res.; b. 1914; B.S., 1940, M.S., 1947, Cornell Univ. Ph.D. 1949, 11ab, lab. Pub. Cooperative marketing of eggs and poultry in New York state (joint author) (Cornell Univ., Dept. of Agric. Econ., 1942); Directory of planning boards (Bul. 46, Div. of Com., State of New York, 1942); Wholesale market for fruits, vegetables, poultry and eggs at Richmond (joint author) (U.S. Dept. of Agric., 1948). Res. Marketing facilities for wholesale handling of poultry and eggs in terminal markets.
- FABRICANT, Solomon**, 1819 Broadway, New York 23, N.Y. (1933) New York Univ., prof.; Nat. Bur. of Econ. Res., member of res. staff; teach., res., govt. serv.; b. 1906; B.C.S., 1926, New York; B.S., 1929, City of New York; M.A., 1930, Ph.D., 1938, Columbia. Fields 5, 3c, 2a. Doc. dis. Capital consumption and adjustment (Nat. Bur. of Econ. Res., 1938). Pub. Output of manufacturing industries (1940); Employment in manufacturing (1942) (Nat. Bur. of Econ. Res.). Res. Changing industrial distribution of workers. Dir. Dir. of Amer. Schol., W.W. in East.
- FACKLER, Clarence Webster**, New York Univ., Grad. School of Bus. Admin., New York 6, N.Y. (1926)
- FAGAN, Elmer Daniel**, Rt. 3, Box 666 E, Redwood City, Calif. (1927) Stanford Univ., prof., teach., res.; b. 1895; A.B., 1920, Oklahoma; M.A., 1921, Ph.D., 1926, Harvard. Fields 9, 6, 1. Doc. dis. Economic factors in migration of wheat belt in U.S. Pub. "Tax shifting and laws of cost," Q.J.E., Aug., 1933; "Recent and contemporary theories of progressive taxation," J.P.E., Aug., 1938; "Tax shifting in market period," A.E.R., Mar., 1942.
- FAIR, Marvin Luke**, Tulane Univ., New Orleans, La. (1926)
- FAIRCHILD, Fred Rogers**, Yale Sta., New Haven, Conn. (1904) Yale Univ., prof. emeritus, teach., res., dept. head; b. 1877; B.A., 1898, Doane Col.; Ph.D., 1904, Yale; LL.D., 1929, Doane. Fields 9, 1a, 7. Doc. dis. Factory legislation of state of New York (A.E.R., Nov., 1905). Pub. Elementary economics (joint author) (Macmillan, 1926); Forest taxation in U.S. (U.S. Dept. of Agric., 1935); Profits and ability to pay wages (Found. for Econ. Educa., 1946). Dir. W.W. in Amer., Int. W.W.
- FAIRCHILD, Ralph Raymond**, 120 S. LaSalle St., Chicago 3, Ill. (1946) Registered invest. adviser, bus.; b. 1894; attended Northwestern. Fields 8ab, 6. Pub. "Determination of an investment policy," Apr., 1948, "Investment economics," Nov., 1944, "Banks bond account," Feb.-Sept., 1943, Midwestern Banker. Dir. W.W. in Com. and Ind.
- FAIRLEY, Lincoln**, Int. Longshoremen's and Warehousemen's Union, 604 Montgomery St., San Francisco, Calif. (1945)
- FALCK, Edward**, 1319 F St., N.W., Washington 4, D.C. (1934)
- FALCONER, John Ironside**, Ohio State Univ., Columbus, Ohio. (1914) Ohio State Univ., prof., dept. head, teach., res.; b. 1888; B.S., 1909, New Hampshire; Ph.D., 1914, Wisconsin. Field 15ab. Doc. dis. History of agriculture in northern U.S. (Carnegie Inst. of Wash., 1920). Pub. Agriculture of Ohio (Ohio Agric. Exp. Sta., 1918). Res. Relationship between soil maintenance and profitable farming. Dir. W.W. in Amer., Lead. in Educa.
- FALICK, Abraham Martin**, 919 E. Hyde Park Blvd., Chicago 15, Ill. (1947) Webb-Linn Frtg. Co., salesman, bus., res.; b. 1920; A.B., 1947, Indiana; 1947-48, Chicago. Fields 16, 1a, 11b. Res. Labor restrictions, printing industry.
- FALK, Isidore S.**, Soc. Sec. Bd., Bur. of Res. and Statis., Washington, D.C. (1940)
- FANTON, Conrad R.**, 1723 1/4 S. Westmoreland Ave., Los Angeles 6, Calif. (1947)
- FARBER, David J.**, 21 Elmira St., S.E., Washington 20, D.C. (1945)
- *FARBER, Evelyn W.** (Mrs. David J.), 21 Elmira St., S.E., Washington 20, D.C. (1945)
- FARIOLETTI, Marius**, 4822 3rd St., N., Arlington, Va. (1944) Treas. Dept., Div. of Tax Res., asst. dir., dept. head, res., govt. serv.; b. 1908; B.B.A., 1932, Chattanooga; M.A., 1937, Oberlin; 1939-41, Duke. Fields 9, 1a, 17d. Pub. "A federal retail sales tax as a fiscal device for curbing inflation in wartime," in Curbing inflation through taxation (Tax Inst., 1944); "Better Nutrition as a national goal: The problem of income and its distribution," 1939 Yearbook of Agric., 1940.
- FARLEY, John Arthur**, St. John's Univ., Collegeville, Minn. (1946)
- FARLEY, John Thomas**, 2191 Plaza, Schenectady 8, N.Y. (1939)
- FARMER, Ivan Marlowe**, Univ. of Kansas. School of Bus., Lawrence, Kan. (1946) Univ. of Kansas, instr. in econ., teach., bus., res.; b. 1918; B.S., 1943, Indiana; M.B.A., 1948, Kansas. Fields 11c, 8a, 16.
- FARNSWORTH, Frank Albert, Jr.**, 26 Hamilton St., Hamilton, N.Y. (1943) Colgate Univ., Dept. of Econ., asst. prof., teach.; b. 1919; A.B., 1939, Colgate; A.M., 1946, 1947-48, Harvard. Fields 12a, 13a, 14a. Pub. "Pre-purchase plan," Taxes—(Com. Clear. House). Res. Economic and social relationships of business organization in American community.
- FARNSWORTH, (Mrs.) Helen Cherington**, Food Res. Inst., Stanford University, Calif. (1925) Food Res. Inst., econ. and assoc. prof., res., teach.; b. 1903; B.S., M.A., 1924, Ohio State; Ph.D., 1930, Stanford. Fields 15b, 17d, 10. Doc. dis. Rate structures in manufactured gas industry. Pub. World grain review and outlook, 1945 (1945), Livestock in continental Europe during World War II (1944), Grain saving for U.S. export (1947) (Food Res. Inst.). Res. World grain shortage of 1945-48; food grains in World War II. Dir. W. W. in Amer. Educa.
- FARRAR, Edgar Stewart**, 7 Terra Cotta Ave., Glens Falls, N.Y. (1947)
- *FARWELL, Loring Chapman**, 738 Happ Rd., Northfield, R.F.D., Northbrook, Ill. (1946) Northwestern Univ., lecturer in fin., teach., res.; b. 1915; B.S., 1937, M.I.T.; M.B.A., 1940, Northwestern; 1940-41, Michigan. Fields 8a, 7, 6. Pub. "Review of railroad financing, 1920-38, Part III. Capital funds," Jour. of Land and Pub. Util. Econ., Nov., 1940.
- FAUBEL, Arthur L.**, 12 Vermont Ave., White Plains, N.Y. (1919)
- *FAUCETT, Philip Matson, Jr.**, Univ. of Illinois, Dept. of Econ., Champaign, Ill. (1947) Univ. of Illinois, asst., teach., res.; b. 1917; B.A., 1940, Illinois; M.B.A., 1942, Harvard. Fields 1a, 3c, 5.
- FAUGHT, William A.**, Fed. Res. Bank, Sta. K, Dallas 13, Tex. (1946)
- FAULKNER, Harold Underwood**, 26 Barrett Pl., Northampton, Mass. (1926) Smith Col., Morrow Prof. of Hist., res., teach., edit.; b. 1890; B.A., 1913, L.H.D., 1943, Wesleyan Univ. (Middleton, Conn.); M.A., 1915, Ph.D., 1916, Columbia. Fields 2a, 16. Doc. dis. Chartism and the churches (Columbia Univ. Press, 1916). Pub. American economic history (Harper, 1924, 5th ed. 1943); Quest for social justice (Macmillan, 1931); American political and social history (Appleton-Century-Crofts, 1937, 5th ed. 1948). Res. Economic history of U.S., 1897-1917. Dir. W.W. in Amer., Dir. of Amer. Schol.
- FAUST, Lloyd Myron**, Univ. of Kansas, School of Bus., Lawrence, Kan. (1938) Univ. of Kansas, School of Bus., asst. prof., teach., res.; b. 1913; B.S., 1935, Oregon; 1936-37, George Washington; M.B.A., 1947, Stanford. Fields 8a, 13b, 12a. Pub. "The Eugene, Oregon rural-urban fringe," Proceed., Commonwealth Conf., Univ. of Oregon, 1942.
- FAUTZ, Elizabeth**, 1901 Columbia Rd., N.W., Washington, D.C. (1948) Food and Agric. Org. of United Nations, tech. officer; b. 1913; 1931-34, Reed Col.; B.A., 1936, Humboldt State Col.; 1941-43, Iowa State Col. Fields 17d, 1.
- FEFFERMAN, Arthur Stanley**, 5354 Quincy Pl., Bladensburg, Md. (1946) Div. of Tax Res., U.S. Treas. Dept., govt. serv.; b. 1918; B.A., 1939, Brooklyn; M.A., 1941, Columbia; 1941-45, New

School for Soc. Res. Fields 9, 1a, 16. Pub. Tax treatment of family income (with others) (U.S. Treas. Dept.); Tax treatment of savings (with Mr. Echer-Racz) (1948).

FEHMERS, Jan Marie, c/o Netherlands Embassy, Agency for Ministry of Finance, Hereford House, 117, Park St., London, W.1, England. (1947) Netherlands Embassy, deputy fin. counselor, govt. serv.; b. 1916; 1940, Netherlands High School for Econ., Rotterdam; Cand. Jur., 1942, Univ. of Utrecht. Fields 7, 8, 10.

FEIGON, Gershon J., 1411 S. Tripp Ave., Chicago 23, Ill. (1946) Mid-Continent Sales Co., asso. dir.; Globe Trade Res., asso. dir.; Latin American Inst., instr. in for. market anal., bus.; B.S. in Ed., 1939, 1940, Northwestern; 1947, Chicago. Fields 10, 11b, 16.

FEINN, Barbara Ann, 370 Temple St., New Haven Conn. (1945) Yale Univ., student; b. 1925; B.A., 1946, Smith; M.A., 1947, 1947-48, Yale. Fields 12, 4, 6.

*FEINSTEIN, Lazar, 8 Sirkin St., Tel-Aviv, Israel. (1948)

FEIS, Herbert, 1529 29th St., Washington, D.C. (1921) Writing; b. 1893; A.B., 1916, Ph.D., 1921, Harvard. Fields 10, 2, 1. Doc. dis. Principles of wage settlement (Macmillan, 1921). Pub. Europe the world's banker, 1870-1914 (Yale Univ. Press, 1931); Sineews of peace (Harper, 1944); The Spanish story (A. A. Knopf, 1948). Dir. W.W. in Amer., Dir. of Amer. Schol., Int. W.W.

FEIT, John F., 450 E. 105th St., New York 29, N.Y. (1947)

FELDE, Leon Stephen, 360 Central Park W., New York 25, N.Y. (1942) United Nations, Dept. of Econ. Affairs, Transport and Communications Div., econ. affairs officer, res., edit., govt. serv.; b. 1892; Lic. Com. Sc., 1913, Univ. of Liege; D. Sc. (Econ.), 1917, Univ. of Lausanne; Laureate (Law Fac.), 1916, Univ. of Liege. Fields 13bc, 15d, 8c. Doc. dis. Le Blé Russe. Production et voies de transport vers la Suisse (Payot & Cie., Lauzanne, 1917). Pub. Le Blé Russe. Production et voies de transport (extended) (Payot & Cie., Lauzanne et Paris, 1918); Lodz, Le Manchester polonais (1st ed., Ste. Neuchat, de Geographic, Switzerland, 1934; 2nd ed., Chamber of Commerce, Poland, 1935); General average and the York-Antwerp rules, 1924 (Ch. of Com. and Ind., Poland, 1936). Res. Transport and communications problems in Europe, Middle East, South America.

FELDMAN, David D., 17 Lexington Ave., New York 10, N.Y. (1948) Col. of City of New York, bus.; b. 1907; B.B.A., 1933, City of New York; M.A., 1935, Columbia. Fields 2a, 11ac, 16.

FELDSSTEIN, Marc J., 2710 N. Lexington St., Arlington, Va. (1941)

FELLNER, William John, Univ. of California, Dept. of Econ., Berkeley 4, Calif. (1941) Univ. of California, prof. of econ., teach., res.; b. 1905; B.Sc., 1927, Federal Inst. of Tech., Zurich; Ph.D., 1929, Univ. of Berlin. Fields 1a, 5, 6. Pub. Monetary policies and full employment (Univ. of California Press, 1946; 2nd ed., 1947); "Employment theory and business cycles," in Survey of contemporary economics (Blakiston, 1948); "Prices and wages under bilateral monopoly," Q.J.E., 1947, Res. Problems of farness in value theory. Dir. W.W. in Amer.

*FELSANTHAL, Leonard, 1665 34th St., N.W., Washington, D.C. (1943)

FELSTEN, Benjamin E., 2223 E. Allegheny Ave., Philadelphia 34, Pa. (1943) Food Fair Stores, Inc., res. anal., bus. res.; A.B., 1942, Brooklyn; 1946-47, American. Fields 11ab, 12b, 15cd.

FENNINGER, Carl Wiker, 1632 Chestnut St., Philadelphia 3, Pa. (1925) Provident Trust Co. of Philadelphia, vice-pres.; b. 1884.

FENNINGER, Laurence, Jr., R.F.D., Riegelsville, Pa. (1944) Bethlehem Steel Co., bus.; b. 1915; A.B., 1936, Princeton. Fields 16, 6.

FENTRESS, Calvin, 208 S. La Salle St., Chicago, Ill. (1933)

*FERBER, Marianne Abeles (Mrs. Robert), 54 W. 89th St., New York 24, N.Y. (1948) Standard

Oil (N.J.), econ. analyst; Hunter Col., evening school instr., res., teach.; b. 1923; B.A., 1944, McMaster; M.A., 1946, Chicago. Fields 10, 1a, 6. Res. Czechoslovakia in interwar period (doc. dis.).

FERBER, Robert, 54 W. 89th St., New York 24, N.Y. (1945) B. 1922; B.S., 1942, City of New York; M.A., 1945, Chicago; 1946-48, Columbia. Fields 3, 11b, 17d. Pub. Statistical techniques in market research (McGraw-Hill, 1948); "Disproportionate method of market sampling," Jour. of Bus., 1946; "Sequential analysis: a new technique for commercial research," Printers' Ink, 1948. Res. Theory and measurement of consumption (doc. dis.). Dir. Who Knows—and What.

FEREBEE, Enoch Emory, 6300 Ridgewood Ave., Chevy Chase, Md. (1929)

FERGENSEN, M. C., 110-29 73rd Rd., Forest Hills, N.Y. (1946)

FERGER, Wirth Fitch, 4635 N. Rock Spring Rd., Arlington, Va. (1935) U.S. Treas. Dept., Bur. of Int. Rev., Bus. and Ind. Res. Div., head, govt. serv., res.; b. 1897; B.A., 1919, Wisconsin; M.A., 1920, Columbia; Ph.D., 1931, Wisconsin. Fields 9, 14a, 11. Doc. dis. Elasticity of demand related to index number construction (excerpts, A.E.R., 1936). Pub. "Role of economics in federal tax administration," Nat. Tax Jour., June, 1948; "Measurement of tax shifting: economics and law," May, 1940, "Static and dynamic in statistical demand curves," Nov., 1932, Q.J.E. Res. Tax administration.

FERGUSON, Esmond S., 310 W. 55th St., New York 19, N.Y. (1947)

FERGUSON, John Maxwell, Univ. of Pittsburgh, Pittsburgh, Pa. (1917)

FERGUSON, Robert Harry, 107 Dryden Rd., Ithaca, N.Y. (1942) New York State School of Ind. and Labor Rel., Cornell Univ., assi. prof., teach., res.; b. 1917; A.B., 1938, Union Col.; A.M., 1940, Brown; Ph.D., 1948, Cornell Univ. Fields 16, 2b, 14. Doc. dis. Unionization of foremen. Pub. American way of life (co-author) (Prentice-Hall, 1942).

FERRAND, Margaret M., 4125 18th Pl., N.E., Washington 18, D.C. (1944)

FERRIN, Dana Holman, c/o D. Appleton-Century Co., 35 W. 32nd St., New York, N.Y. (1932)

†FETTER, Frank Albert, 168 Prospect Ave., Princeton, N.J. (1894) Princeton Univ., prof. emeritus; b. 1863; A.B., 1891, LL.D., 1934, Indiana; Ph.D., 1894, Halle-Wittenberg; LL.D., 1909, Colgate, 1930, Occidental, 1945, Princeton. Fields 1ab, 12b. Pub. Economic principles (1915), Modern economic problems (1916) (Century Co.); Masquerade of monopoly (1931). Dir. W.W. in Amer., Dir. of Amer. Schol.

FETTER, Frank Whitson, Northwestern Univ., Harris Hall, Evanston, Ill. (1923) Northwestern Univ., prof. of econ., teach., res.; b. 1899; A.B., 1920, Swarthmore; A.M., 1922, Ph.D., 1926, Princeton; A.M., 1924, Harvard. Fields 10, 7, 1b. Doc. dis. Monetary inflation in Chile (Princeton Univ. Press, 1932). Pub. Problems of new Cuba (co-author) (For. Policy Assn., 1935); The New Deal and tariff policy (Univ. of Chicago Press, 1933, rev. ed. 1937); "Life and writings of John Wheatley," J.P.E., June, 1942. Res. Development of monetary theory and theory of international financial adjustment in England, 1797-1870. Dir. W.W. in Amer.

FETTER, Theodore Albert, 1240 N. Stuart St., Arlington, Va. (1930)

FETZER, John Clark, Rutgers Univ., School of Bus. Admin., 40 Rector St., Newark 2, N.J. (1945)

FEUERLEIN, Willy J. A., E. I. du Pont de Nemours & Co., Treas. Div., Wilmington 98, Del. (1940) E. I. du Pont de Nemours & Co., Treas. Div., econ.; Univ. of Delaware, lecturer in econ. and bus. admin.; bus., res., teach.; b. 1911; A.B., M.A., 1935, George Washington; Ph.D., 1939, Yale; 1937-38, Brookings. Fields 10, 7, 8a. Doc. dis. Structure of international economic relations as seen through balances of international payments. Pub.

Dollars in Latin America (with E. Hannan) (Conn. on For. Rel., N.Y., 1941).

FICEK, Karel Francis, 156 Rrvvator St., Albany 3, New York. (1926) N.Y. State Dept. of Labor, Div. of Place. and Unemp. Ins., chief of labor, govt. serv.; b. 1903; Merc. Ing., 1924, Grad. School of Com., Prague; M.A., 1926, Chicago; 1925, Wisconsin; 1926, Harvard; 1927, London School of Econ.; 1927-28, Universität Frankfurt am Main; 1930-31, Columbia.

FICHTNER, Charles Clifton, 238 Main St., Buffalo 2, N.Y. (1924) Buffalo Ch. of Com., exec. vice-pres., bus., res.; b. 1898; S.B., 1920, Harvard; Dr. in Econ., 1922, Univ. of Lyons, Fields 11ac, 8ab, 7, Dir. W.W. in Amer., in East, Who Knows—and What, Dir. of Amer. Schol., Lead. in Educa.

FICK, John William, 420 Tremont St., North Tonawanda, N.Y. (1940)

FICKER, Hermann, 9008 Flower Ave., Silver Spring, Md. (1947) Leg. Ref. Serv., Lib. of Cong., Int. Fin. and Trade, econ., govt. serv., res., bus.; b. 1910; B.A., 1939, Washington Missionary Col.; M.A., 1940, 1940-42, American, Fields 10, 2b, 7, Pub. European trade patterns (1948), U.S. Government economic assistance to foreign countries, July 1, 1940-June 30, 1947 (1948) (Govt. Prtg. Office); Major government lending agencies (Lib. of Cong., Leg. Ref. Serv., 1947). Res. Economic interrelationships between U.S. and Northern Africa.

FIELD, Bertrand B., 1445 Otis Pl., N.W., Washington 10, D.C. (1945)

FIELD, Frederick V., 23 W. 26th St., New York 10, N.Y. (1934)

FIELD, Kenneth, 234 Lytton Ave., Pittsburgh 13, Pa. (1936) Carnegie-Illinois Steel Corp., Ind. Rel. Res., dir., res., bus.; b. 1903; B.A., 1925, Maine; M.A., 1926, Ph.D., 1928, Illinois; J.D., 1936, Northwestern, Fields 16, 8, 6, Doc. dis. Public utility holding corporation (Univ. of Colorado Press, 1932). Pub. Corporation finance (1938), Introduction to investment analysis (1940) (Ronald Press); "Strict-priority-of-liens policies of federal agencies," Amer. Law School Rev., May, 1942, Res. Direct research in all phases of industrial relations. Dir. Lead. in Educa.

FIELD, Marshall, 250 Park Ave., New York 17, N.Y. (1920)

FIELD, Maxwell, 210 Lincoln St., Boston 11, Mass. (1948) New England Shoe and Leather Assn., exec. vice-pres. and secy., dept. head, bus.; b. 1912; A.B., 1933, Dartmouth; M.C.S., 1934, Amos Tuck, Fields 11a, 3a, 14a, Res. New England shoe industry. Dir. W.W. in Ind.

FIELD, Robert W., Purdue University, La Fayette, Ind. (1941)

FIFE, Harry Moore, 8 Chipman Pk., Middlebury, Vt. (1926) Middlebury Col., prof., dept. head, teach.; B.A., 1921, McGill; A.M., 1923, Harvard, Fields 7, lab, 9, Pub. "Collective bargaining in anthracite coal" (Univ. of Chicago, 1923). Res. Trade and tariff history of Canada. Dir. W.W. in East.

FILIE, Ferruccio A., 34658 Glenwood Rd., Wayne, Mich. (1945) Ford Motor Co., Mktg. Res., asst. dir., bus.; b. 1903; B.B.A., 1930, Boston Univ.; M.B.A., 1942, Northwestern, Fields 11b, 6, 1a.

FILIPETTI, George, Univ. of Minnesota, School of Bus. Admin., Minneapolis 14, Minn. (1922) Univ. of Minnesota, prof., teach.; b. 1890; B.S., 1916, Columbia; M.A., 1921, Washington Univ.; Ph.D., 1925, Columbia, Fields 11a, 12b, 14a, Doc. dis. Wholesale markets of New York and environs (Com. on Regional Plan of N.Y. and Environs, 1925). Pub. Industrial management in transition (Richard Irwin, 1946); Economic effects of NRA (1935), Scientific management—an aid to industrial control (1933) (Univ. of Minnesota Press). Dir. Dir. of Schol.

FILLEY, H. Clyde, Col. of Agric., Lincoln 1, Neb. (1923) Univ. of Nebraska, prof. of rural econ., dept. chmn., teach., res.; b. 1878; B.Ed.(Hon.), 1906, Peru (Neb.) State Normal Col.; B.A., 1903,

M.A., 1911, Nebraska; 1929, Chicago; Ph.D., 1934, Minnesota, Fields 15b, 9, 1a, Doc. dis. Effects of inflation and deflation on Nebraska agriculture, 1914-32 (Neb. Agric. Exp. Sta., 1934). Pub. Cooperation in agriculture (Wiley, 1929); Wealth of nation (Univ. of Nebraska Press, 1945). Res. Marketing projects. Dir. W.W. in Amer., in Nebraska, Lead. in Educa.

FINAN, Austin Leo, Jr., 113 N. 3rd St., Allegheny, N.Y. (1948) St. Bonaventure Col., School of Bus. Admin., asso. prof. of fin., teach., res.; b. 1917; A.B., 1937, A.M., 1939, summers, 1946-48, Columbia, Fields 7, 1, 3, Pub. "Inflation and prices," Sci. Studies Quar. Res. Population requirements of capitalism (doc. dis.).

FINCK, David H., 15 Washington St., Newark, N.J. (1939)

FINE, Sherwood Monroe, GHQ-SCAP-ESS, APO 500, c/o Postmaster, San Francisco, Calif. (1947) Dept. of Army, SCAP, Tokyo, Japan, govt. serv.; b. 1914; B.A., 1936, New York; M.A., 1938, Columbia; 1939-40, Harvard; Ph.D., 1943, Columbia, Fields 10, 9, 4, Doc. dis. Public spending and postwar economic policy (Columbia Univ. Press, 1944).

FINGER, M. Eleanor, 42 Temple St., Arlington, Mass. (1941) Champlain Col., asst. prof., teach.; b. 1919; B.A., 1940, M.A., 1942, Wellesley, Field 16, Pub. "1945 A.F. of L. convention," Monthly Labor Rev. (U.S. Dept. of Labor), Nov., 1945; How you and your family are protected by old-age and survivors insurance (Govt. Prtg. Office, 1947).

FINK, Cornelius Winfield, Dickinson Col., Carlisle, Pa. (1923)

FINLEY, John W., 20 Earl St., Westbury, N.Y. (1943) E. H. Rollins & Sons, Inc.; b. 1915; A.B., 1939, Brooklyn Col.; 1940-42, New York, Fields 8, 7, 12.

FINN, Sister Isabelle Marie, Marymount Col., Salina, Kan. (1946) Marymount Col., asst. prof., teach.; b. 1905; 1939, Marymount; 1944, De Paul, Fields 11, 8, 7, Pub. "Recent trends in depreciation accounting," Nat. Bus. Educa. Quar., Spring, 1947.

FINNEGAN, Joseph H., 3350 Bronx Blvd., New York 67, N.Y. (1937)

FINNEY, Katherine, Connecticut Col., New London, Conn. (1940) Connecticut Col., asso. prof., teach.; A.B., 1935, Arkansas; A.M., 1936, Ph.D., 1944, Columbia, Fields 7, 1, 9, Doc. dis. History of mutual savings banks in Northampton, Mass. (Kings Crown Press, 1945).

FIREOVED, Elgie Lloyd, 847 Greenwood Rd., Le Mars, Iowa. (1926)

FIRESTONE, O. J., Dept. of Reconstruction and Supply, Ottawa, Ont., Canada. (1946)

FIRFER, Alexander, 4803 S. 30th St., Arlington, Va. (1943) Fed. Commun. Com., govt. serv.; b. 1919; B.A., 1940, New York; 1940-41, Columbia, Fields 13ac, 12, 8b, Res. State regulatory commission rate base practice in light of "Hope Case"; cost of money for telephone companies.

FIRST, Ramona Kuntze, 429 Sterling Ct., Madison 5, Wis. (1947)

FIRTH, Norman Charles, 290 Broadway, New York 3, N.Y. (1944) Dun & Bradstreet, Inc., editor, dept. head, bus.; b. 1895; B.S., 1920, Worcester Poly. Inst. Fields 6, 14, 5, Dir. W.W. in Amer.

FISCHER, Harold, Franklin and Marshall Col., Lancaster, Pa. (1932)

FISCHER, Harry Salwyn, 274 Madison Ave., New York, N.Y. (1941)

FISCHER, Paul Allen, 6136 N. 22nd St., Arlington, Vt. (1941)

FISH, Hy, Roosevelt Col., 430 S. Michigan Ave., Chicago 5, Ill. (1948) Roosevelt Col., Labor Educa. Div., asst. dir., asst. prof. of labor educa., ind. eng. consult.; teach., res.; b. 1913; attended Washington Univ., Illinois Inst. of Tech., Brookwood Labor Col. Fields 16, 11, 4, Res. Time study for labor unions.

FISHBURN, John Tipton, 9207 Kensington Pkwy., North Chevy Chase 15, Md. (1939) Dept. of State, int. labor econ., govt. serv.; b. 1913; B.A., 1935, Oklahoma; M.A., 1936, Fletcher School

of Law and Diplomacy; 1938, Brookings Inst. Fields 16, 10, 1a.

FISHBURN, Junius P., Box 1139, Roanoke, Va. (1923)

FISHER, Allan George Barnard, International Monetary Fund, Washington 6, D.C. (1943) International Monetary Fund, Div. of Res., chief, edit., res.; b. 1895; B.A., 1916, Univ. of Melbourne; Ph.D. (Econ.), 1924, London School of Econ. Fields 10, 1, 7. Doc. dis. Some problems of wages and their regulation in Great Britain since 1918 (P.S. King, 1925). Pub. Clash of progress and security (1935). Economic progress and social security (1945) (Macmillan); International implications of full employment in Great Britain (Royal Inst. of Int. Affairs, 1946).

FISHER, Allan Jerry, 2610 S. Troy St., Arlington, Va. (1937) Treas. Dept., NAC Div., Office of Int. Fin., asst. chief; American Univ., lecturer in acctg.; govt. serv., teach.; b. 1906; B.S. in Econ., 1928, Pennsylvania; Litt.M., 1936, Ph.D., 1937, Pittsburgh; summers, 1933, 1934, Wisconsin. Fields 10, 11c, 8. Doc. dis. The sterling area: study of international aspects of British monetary policy (abstract, Univ. of Pittsburgh Bul., Oct. 1, 1937). Pub. "Accounting cases," Acctg. Rev., Mar., 1940-Mar., 1941; "Personal and automobile insurance carried by rural and urban groups," Agric. Fin. Rev., Nov., 1940. Dir. Dir. of Schol.

FISHER, Benjamin, 55 Clinton Pl., Bronx, New York, N.Y. (1944)

FISHER, Clyde Olin, Wesleyan Univ., Middletown, Conn. (1916) Wesleyan Univ., teach.; b. 1891; A.B., 1911, L.L.D., 1941, Duke; A.M., 1916, Columbia; Ph.D., 1919, Cornell Univ. Fields 7, 13a, 8a. Doc. dis. Use of federal power in settlement of railway labor disputes (U.S. Dept. of Labor, 1923). Pub. Commission regulation of public utilities in Connecticut (Edwards Bros., 1933); Annual reports Conn. Public Utilities Commission, 1941-47 (State of Conn., 1941-47). Res. Aspects of public utility regulation. Dir. W.W. in Amer., Lead. in Educa., Int. W.W.

FISHER, Ernest M., Columbia Univ., School of Bus., 116th and Broadway, New York 27, N.Y. (1923)

FISHER, Frank Gerrard, 1063 Sauchiehall St., Glasgow C3, Scotland. (1947) Joybelle Ltd., factory mgr., bus., res.; b. 1924; B.A. (Com.), 1946, Manchester Univ. Fields 11a, 4ab, 1a. Res. Industrial development in West Cumberland since 1932.

FISHER, Gerald C., 5924 Montgall Ave., Kansas City 4, Mo. (1945)

FISHER, Joseph L., 1302 Tracy Pl., Falls Church, Va. (1947)

FISHER, Paul, 19 E. Wheelock St., Hanover, N.H. (1945) Dartmouth Col., asst. prof., teach., res.; b. 1908; 1926-27, Univ. of Paris; J.U.D., 1930, Univ. of Vienna. Fields 16, 17b, 4ab. Pub. "Trade unions under Wagner Act," Ore. Law Rev., Dec., 1941; "National War Labor Board and postwar industrial relations," Aug., 1945, "Reparation labor—a preliminary analysis," May, 1946, Q.J.E. Res. Some trends in postwar labor legislation abroad; introduction to labor legislation. Dir. W.W. in New England.

FISHER, Waldo E., Univ. of Pennsylvania, Wharton School, 310 Logan Hall, Philadelphia, Pa. (1926)

FISHER, William Hadler, Univ. of Delaware, Newark, Del. (1947)

FISHMAN, Betty Goldstein (Mrs. Leo), P.O. Box 1016, Morgantown, W.Va. (1941) B. 1918; B.A., 1930, M.A., 1940, New York; 1940-41, American. Fields 5, 17ad, 6. Res. Theoretical limits of a decline in national income.

FISHMAN, Leo, West Virginia Univ., Morgantown, W.Va. (1941) West Virginia Univ., asso. prof., teach.; b. 1914; B.A., 1937, M.A., 1938, New York; 1938-39, Univ. of Washington; Ph.D., 1945, New York. Fields 9, 6, 7. Doc. dis. British wartime control of non-ferrous metals. Pub. "British wartime control of aluminum" (joint author), Q.J.E., 1941; "Wartime control of tin in Great Britain," J.P.E., 1946; "Appraisal of methods of estimating

the size distribution of a given aggregate income" (joint author), Rev. of Econ. Statis., 1947. Res. Influence of national debt on certain economic institutions; postwar conditions of W.Va. banks.

FITCH, John Andrews, 39 Claremont Ave., New York 27, N.Y. (1910) New York School of Social Work, prof. retired, teach., res.; b. 1881; A.B., 1904, L.L.D., 1929, Yankton; 1906-09, Wisconsin. Fields 16, 17b, 2a. Pub. The steel workers (Russell Sage Found., 1910); Causes of industrial unrest (Harper, 1924); Vocational guidance in action (Columbia Univ. Press, 1935). Dir. W.W. in Amer.

FITCH, Lyle C., Box 218, Wesleyan Sta., Middletown, Conn. (1939)

FITZGERALD, Gertrude, American Bankers Asso., 12 E. 36th St., New York 16, N.Y. (1946)

FITZGERALD, James Anderson, Univ. of Texas, Austin 12, Tex. (1914) Univ. of Texas, Col. of Bus. Admin., dean, teach.; b. 1883; A.B., 1901, Georgetown Col. (Ky.); A.M., 1907, Ph.D., 1925, Chicago. Fields 8c, 7. Doc. dis. Relations of a bank with its customers (Holt, 1923). Pub. "Reciprocal insurance," A.E.R., Mar., 1920; "Relation of loans, reserves, and deposits," Amer. Bankers Asso. Jour., Jan., 1925; "Inspection of persons as a factor in life insurance," Amer. Acad. of Polit. and Soc. Sci., Mar., 1927. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Who Knows—and What.

FITZGERALD, Lloyd Edward, Univ. of Detroit, Col. of Com. and Fin., Detroit 21, Mich. (1935) Univ. of Detroit, dean; b. 1904; B.Ed., 1927, State Teachers Col. (Superior, Wis.); A.M., 1930, Iowa; Ph.D., 1938, Illinois. Fields 15b, 7, 8. Doc. dis. Railway finance since 1929. Dir. W.W. in Amer.

FITZPATRICK, Paul Joseph, 4119 13th Pl., N.E., Washington 17, D.C. (1939) Catholic Univ. of Amer., Grad. School of Soc. Sci., dean, Dept. of Econ., head, teach., res.; b. 1894; A.B., 1916, Catholic Univ. of Amer.; A.M., 1929, George Washington; M.C.S., 1928, Benjamin Franklin Univ.; Ph.D., 1931, Catholic Univ. of Amer. Fields 7, 3ac, 11ac. Doc. dis. Symptoms of industrial failures (Catholic Univ. of Amer. Press, 1931). Pub. Problems of business failures (Dolphin Press, 1936); Bibliography of economic books and pamphlets by Catholic authors (Catholic Univ. of Amer. Press, 1941); Comparison of ratios of successful industrial enterprises with those of failed companies (Accountants Pub. Co., 1932). Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.

FITZSIMMONS, Cleo, Purdue Univ., Home Econ. Bldg., West Lafayette, Ind. (1945) Purdue Univ., Home Mgt. Dept., head, prof., teach., res.; b. 1900; 1923-24, Drake; B.S., 1928, Iowa State Col.; M.S., 1933, Ph.D., 1945, Illinois. Fields 17abd, 7, 4. Doc. dis. Some contributions of economic theory to home economics. Pub. "Some Illinois consumption patterns," Jour. of Home Econ., Oct.-Dec., 1947; "Patterns of family relationships in fifty farm families," Rural Soc., Sept., 1947; "Consumption pattern—basis and goal of extension programs," Ext. Serv. Rev., Nov., 1947. Res. Provisions for security by a group of Illinois farm families. Dir. Lead. in Educa.

FLANDERS, Dwight Prescott, Univ. of Illinois, 226 David Kinley Hall, Urbana, Ill. (1937) Univ. of Illinois, asso. prof. of econ., teach., res., edit.; b. 1909; B.A., 1931, M.A., 1937, Illinois; 1933-34, Beloit; Ph.D. 1939, Yale. Fields 1ac, 6, 15de. Doc. dis. Urban low rent housing and public finance. Pub. Collection of rural real property taxes in Illinois (U.S. Dept. of Agric., 1938); "Planning and low rent housing," Social Forces, Mar., 1941; "Geopolitics and American post-war policy," Polit. Sci. Quar., Dec., 1945. Res. Economics of housing; economic theory.

FLANDERS, June (Mrs. Harley), 6208 Ellis Ave., Chicago 37, Ill. (1947)

FLANDERS, Ralph Edward, 311 Senate Office Bldg., Washington 25, D.C. (1932) U.S. Senate, senator; b. 1880. Fields 12, 11ac, 8a. Pub. Platform for America (Whittlessey House, 1936); Tam-

ing our machines (Richard R. Smith, 1931). Dir. W.W. in Amer.

FLATLEY, L(ee) Thomas, Nat. Bank Bldg., South Bend 11, Ind. (1932) Price, Flatley and Co., partner, bus.; b. 1905; B.S., 1928, Iowa; M.S., 1929, Illinois; Ph.D., 1937, Northwestern. Fields 11ac, 8ab, 7. Doc. dis. Financial ratio analysis of nineteen public utility holding companies.

FLAISHER, Alexander, P.O. Box 5, Churchville, Pa. (1911) B. 1889; A.B., 1908, Pennsylvania; M.A., 1911, Wisconsin; 1911, Chicago; 1911-12, Columbia; Ph.D., 1915, Pennsylvania. Fields 16, 17d, 15d. Doc. dis. Constitutional clauses dealing with health, charities and corrections. Pub. Human factor in industry (with L. K. Frankel) (Macmillan, 1920); Middle Atlantic region (U.S. Govt. Prtg. Office, 1942); Preliminary report, Pennsylvania state planning board to Gov. (Commonwealth of Pa, 1934). Dir. W.W. in Pa.

FLAISHER, Beatrice Hand (Mrs. Benjamin), 1906 23rd St., S.E., Washington, D.C. (1945)

FLAISHER, Benjamin, 1906 23rd St., S.E., Washington, D.C. (1945)

FLEMING, Ralph Douglas, 94 Grove Ave., Albany, N.Y. (1911) N.Y. State Educa. Dept., res. asst., res.; b. 1880; A.B., 1906, Stanford; M.A., 1907, Ph.D., 1915, Pennsylvania, Wharton School. Fields 13b, 2a, 1a. Doc. dis. Street transportation in Cleveland (Univ. of Pennsylvania, 1915). Pub. Railroad transportation (Alexander Hamilton Inst., 1918); Vocational training opportunities in N.Y. State (N.Y. State Educa. Dept., Bur. of Guidance, 1945).

FLETCHER, Henry, Field Point Pk., Greenwich, Conn. (1919)

FLETCHER, Richard D., 2000 F St., N.W., Washington 6, D.C. (1947)

FLINK, Salomon J., Rutgers Univ., School of Bus. Admin., 40 Rector St., Newark 2, N.J. (1942) Rutgers Univ., School of Bus. Admin., prof., dept. head, edit., bus.; b. 1906; 1927, Col. of Com., Berlin; M.A., 1928, Ph.D., 1931, Columbia. Fields lab, 5, 7. Doc. dis. German Reichsbank and economic Germany (Harper, 1930). Pub. Codes, cartels, national planning (collaborator) (McGraw-Hill, 1934); Your business after the war (Res. Inst. of Amer., 1943); The American economy (Dryden Press, 1948).

FLINN, Bernard William, 1936 Charles St., Rockford, Ill. (1932) Seidman & Seidman, mgr., bus.; b. 1887; attended Wisconsin. Fields 11c, 8bc, 6. Dir. W.W. in Ill.

FLISS, Norbert John, 4216 N. 45th St., Milwaukee 9, Wis. (1947) Marquette Univ., student-law; b. 1919; 1946-48, Marquette. Fields 16, 8, 11.

FLOCKEN, Ira G., 1226 Lancaster Ave., Pittsburgh, Pa. (1909)

FLORES, Edmundo, FAO-UN, 1735 De Sales, N.W., Washington, D.C. (1947)

FLORINSKY, Michael T., 308 E. 79th St., New York 21, N.Y. (1934) Columbia Univ., Dept. of Econ., Fac. of Polit. Sci., asst. prof., teach., res.; b. 1894; 1920-21, London School of Econ.; 1922-23, King's Col., London; M.A., 1927, Ph.D., 1931, Columbia. Fields 4a, 10, 2. Doc. dis. End of Russian empire, 1931 (Yale Univ. Press, 1931). Pub. The Saar struggle (1934), Fascism and national socialism (1936), Toward an understanding of U.S.S.R. (1939) (Macmillan). Res. An economic, social, and political history of Russia. Dir. W.W. in Amer., in East, Int. W.W.

FLUBACHER, Joseph Francis, 424 W. Ashdale St., Philadelphia 20, Pa. (1938) La Salle Col., asso. prof., dept. head, teach.; b. 1914; A.B., 1935, La Salle; A.M., 1938, Ed.D., 1948, Temple. Fields 1b, 4, 16. Doc. dis. Concept of ethics in the history of economics.

FLYNN, John Thomas, 35-11 222nd St., Bayside, L.I., N.Y. (1938)

FLYNN, Oscar Rogers, Jr., c/o Deerfield Packing Corp., Bridgeton, N.J. (1943) Fin. consult.; Deerfield Packing Corp., vice-pres., dir.; Columbia Univ., lecturer in fin., bus., res., teach.; b. 1898; B.S., 1921, M.S., 1943, 1943-46, Columbia. Fields 8ab, 11ac, lab. Res. Profits on net worth of in-

dustrial corporations and flow of permanent funds.

FOA, Bruno, 103 E. 86th St., New York 28, N.Y. (1947)

FOERY, Raymond Wilbur, 6 E. Mercer Ave., Llanerch, Del. Co., Pa. (1927)

FOLEY, Ernest B., Boston Col., Chestnut Hill, Mass. (1938)

FOLEY, James Henry, Jr., 20 Summer St., Providence, R.I., (1940) Providence School Com., secy.-auditor; b. 1897; A.R., 1931, A.M., 1933, Brown. Fields 9, 4b, 2.

FOLEY, Mary Joan, Sacramento State Col., Sacramento 14, Calif. (1945) Sacramento State Col., asst. prof., teach.; b. 1903; B.S., 1924, M.S., 1926, Ph.D., 1933, Massachusetts. Fields 17d, 15e, 2a. Doc. dis. Economic history of three marginal farm towns in Massachusetts.

FOLK, Oliver Harold, 404 N. Thomas St., Arlington, Va. (1946) Int. Bank for Reconstruction and Development, asst. plan. officer, bus., govt. serv.; b. 1915; B.S., 1937, Clemson Col.; M.A., 1938, Virginia. Fields 10, 8ac, 11. Pub. "Health of selective registrants" (jointly with Rowntree and McGill), Jour. of Amer. Med. Asso., Apr. 4, 1942; "Selective services medical statistics program," Jour. of Amer. Statis. Asso., Dec., 1942; "Livestock in the South," Univ. of Va. News Letter, Mar. 1, 1939. Dir. W.W. in Amer. Educa.

FOLSOM, Marion Bayard, 343 State St., Rochester, N.Y. (1924)

FOLTS, Franklin Erton, Harvard Bus. School, Soldiers Fields, Boston 63, Mass. (1929) Harvard Grad. School of Bus. Admin., prof., dept. head, teach., res.; b. 1893; 1915-17, Cornell Univ.; A.B., 1919, M.B.A., 1923, Oregon; A.M. (Hon.), 1940, Harvard. Fields 11a, 12a, 14a. Pub. Interpretive accounting (with A.B. Stillman) (Longmans, 1929); Industrial management (E. C. Robbins) (1932), Introduction to industrial management (1938) (McGraw-Hill). Dir. W.W. in Amer.

FOLZ, William E., 250 N. Jefferson St., Moscow, Idaho. (1944)

FORD, Carol Willis, 4 Solon St., Wellesley, Mass. (1937) Babson Inst., prof., dept. head, teach., res.; b. 1901; A.B., 1925, Ph.D., 1936, Cornell Univ. Fields 7, 6, 9. Doc. dis. Commercial bank liquidity. Res. Analysis of money markets.

FORD, Robert Spivey, Univ. of Michigan, Bur. of Govt., Ann Arbor, Mich. (1929)

FORDHAM, Herbert, Oak Farm, Greenport, Suffolk Co., N.Y. (1910) Lawyer; b. 1869; Ph.B., 1894, LL.B., 1895, Cornell Univ. Fields 1, 2, 9. Dir. W.W. in Amer.

FOREGGER, (Mrs.) Eleanor H., 2373 N. 101st St., Milwaukee 13, Wis. (1947) Univ. of Wisconsin Extension in Milwaukee, instr., teach.; b. 1921; 1943-44, Barnard Col.; B.S., 1945, Ph.M., 1945, Wisconsin. Fields 1a, 3a, 7.

FORJOHN, Henry Benjamin, 202 Colonial Bldg., Allentown, Pa. (1944)

FORKOSCH, Morris David, 190 W. Burnside Ave., Bronx, New York 53, N.Y. (1939) Attorney; Walter Hervej Jr. Col., asst. prof., bus., teach., res.; b. 1908; LL.B., 1930, LL.M., 1932, St. John's Col.; B.A., 1936, M.A., 1938, J.S.D., 1948, New York. Fields 16, 12, lab. Pub. Economics of American patent law (New York Univ. Pamphlet Series, 1940); "Discovery and inspection under New York Civil Practice Act," St. John's Law Rev., 1940; "Licensee estoppel in patent law," Temple Law Quar. Rev., 1947. Res. Cases and materials in international commercial law.

FORREST, Charles Dorsey, Northwestern Univ., School of Com., Evanston, Ill. (1946) Northwestern Univ., asso. prof. of adv., teach.; b. 1909; 1927-30, Columbia; B.S., 1933, Northwestern; M.B.A., 1940, Southern California; Ph.D., 1948, Ohio State. Fields 11b, 3a, 8c. Doc. dis. Economic and technical aspects of small retailer advertising.

FORSYTH, F. Howard, Trinity Univ., San Antonio 1, Tex. (1947) Trinity Univ., prof.; War Production Bd., sec. econ.; private industry, vice-pres. in charge prod.; res., govt. serv., bus., teach., edit.; b. 1912; A.B., 1935, Brigham Young; M.S.,

- 1936, Iowa State Col.; Ph.D., 1940, Minnesota. Fields 2b, 12, 11a. Doc. dis. Social crisis and attitudes toward relief (Jour. of Soc. Psych., 1941). Pub. "Relevance and academic bias," Amer. Soc. Rev., Feb., 1945. Res. Partnerships; human relations in industry. Dir. Lead. in Educa.
- FORTH, Milburn L., 140 S. Dearborn St., Room 727, Chicago 3, Ill. (1944) Commonwealth Edison Co., ind. econ., res.; b. 1910; 1927-30, Antioch; A.B., 1938, Indiana; 1938, Chicago. Fields 14a, 15d, 17a.
- FORWARD, Kenneth Arthur, 3305 Wiscasset Rd., Dearborn, Mich. (1946) Ford Motor Co., Ind. Rela. Dept.; b. 1923; A.B., 1944, Colgate; M.A., 1947, Princeton. Fields 16, 11a, 8ab.
- FOSS, Feodore F., 1857 E. Las Tunas Rd., Santa Barbara, Calif. (1918)
- FOSTER, J. Rhoads, E. Allendale Ave., Allendale, N.J. (1935) Utility Reference, asso. editor; New York Univ., Grad. School of Bus. Admin., lecturer; res., edit., teach.; b. 1906; A.B., 1928, M.A., 1929, Ph.D., 1933, Missouri. Fields 13, 11, 12. Doc. dis. The public utility franchise in Missouri (Univ. of Missouri, 1934). Pub. The Federal Power Commission and state jurisdiction (Contemp. Law Pamph., Law and Bus. Ser., Ser. 4, No. 1, New York Univ., 1940); "Rationale of New Jersey rate plan," Public Util. Fortnightly, May, 1944; "Public utilities," in Annual survey of American law (New York Univ. School of Law, 1943-46).
- FOSTER, Louis O., Dartmouth Col., 102 Tuck Hall, Hanover, N.H. (1938)
- FOSTER, Major Bronson, 71 W. 23rd St., New York 10, N.Y. (1939) New York Univ., prof., dept. chmn., Alexander Hamilton Inst., Inc., pres., dir.; b. 1892; A.B., 1910, A.M., 1911, Carson-Newman Col.; 1911-13, Cornell Univ.; 1913-15, New York. Field 7. Pub. Banking (Alexander Hamilton Inst., 1923); Money and banking (co-author) (Prentice-Hall, 1936). Dir. W.W. in Amer.
- *FOURAKER, Lawrence Edward, College Rd., Bryan, Tex. (1947)
- FOURNIER, Leslie Thomas, 164 N. Van Dien Ave., Ridgewood, N.J. (1935) Panhandle Eastern Pipe Line Co., vice-pres.; b. 1901; B.A., 1921, M.A., 1923, Univ. of British Columbia; Ph.D., 1927, California. Fields 13ab, 8ab, lab. Doc. dis. Railway nationalization in Canada. Pub. Railway nationalization in Canada (Macmillan, 1934).
- FOX, Bertrand, 51 Park St., Williamstown, Mass. (1934)
- FOX, Lawrence, U.S. Bur. of the Budget, Int. Activities Br., Executive Office of Pres., Washington 25, D.C. (1945)
- FOX, Martin J., 2400 16th St., N.W., Washington, D.C. (1924) Farm Credit Admin., chief exam., gov. serv.; b. 1894. Fields 11a, 8a, 15b. Dir. Int. W.W.
- FOX, Mortimer Joseph, Jr., Indian Motorcycle Co., Springfield 4, Mass. (1938) Indian Motorcycle Co., treas.; b. 1909; M.B.A., 1933, Harvard; Ph.B., 1930, Yale. Fields 8, 11. Pub. "Deposit insurance as an influence for stabilizing banking structure," Mar., 1936, "A broadened program of bank reports," Sept., 1936, Jour. of Amer. Statis. Asso.; "The low price of equity income," Barron's, Nov., 1941.
- *FOYTIK, Jerry, 375 61st St., Oakland, Calif. (1948) Giannini Found., Univ. of California, student, res. asst.; b. 1914; A.B., 1936, M.A., 1938, 1938-40, 1947-48, California. Fields 15b, 3c, 1ac. Res. Situation and outlook for California plums.
- FRAIN, H. La Rue, Univ. of Pennsylvania, Wharton School, Econ. Dept., Philadelphia, Pa. (1923)
- FRATINE, Harold George, c/o Life Ins. Asso. of Amer., 165 Broadway, New York 6, N.Y. (1929)
- FRAME, William Alexander, Box 202, Fruitland Park, Fla. (1915)
- FRANCE, Royal Wilbur, Rollins Col., Winter Park, Fla. (1943) Rollins Col., prof. of econ., teach.; b. 1883; A.B., 1904, George Washington; A.M., 1908, Hamilton; 1906, Albany Law School; LL.D., 1937, Centro de Estudios de Mexico.
- Fields 1a, 4a, 16. Pub. Why hard times (Scribners, 1930); "Which way prosperity," Rev. of Rev., 1932; "The laguna," Emancipator, 1940. Dir. Lead. in Educa.
- FRANCIS, Bion Hubbard, 31 Lebanon St., Winchester, Mass. (1947) Wellington Sears Co., ins. mgr., bus.; b. 1907; B.S., 1929, M.I.T. Fields 8c, 17. Pub. Life insurance from buyer's point of view (1935), What will social security mean to you? (1937) (Amer. Inst. for Econ. Res.). Res. Study on population analysis.
- *FRANCIS, Cyril Lloyd, Univ. of Buffalo, Dept. of Econ., Buffalo, N.Y. (1948) Univ. of Buffalo, lecturer, teach.; b. 1920; B.A., 1940, M.A., 1946, Toronto; 1946-48, Wisconsin. Fields 16, 10, 4a. Res. Government seizure in labor disputes (doc. dis.).
- FRANCIS, Brother Clement, Manhattan Col., New York, N.Y. (1934)
- FRANCK, Louis R., c/o Mrs. A. Rosenstock-Franck, 46 rue Coulaingcourt, Paris 18, France. (1946)
- FRANCK, Peter Goswyn, 1734 P St., N.W., Washington, D.C. (1944)
- FRANE, Lenore, 16834 Princeton, Detroit 21, Mich. (1948) Wayne Univ., instr., teach.; b. 1923; 1941-43, Olivet Col.; B.A., 1944, M.A., 1947, Michigan. Fields 16, 1, 7.
- FRANK, Isaiah, 3052 S. Woodrow St., Arlington, Va. (1945) U.S. Dept. of State, Special Areas Sec., Int. Resources Div., chief, gov. serv.; b. 1917; B.S.S., 1936, City of New York; M.A., 1938, 1938-39, Columbia. Fields 10, 12a, 6. Pub. "British share prices, 1790-1850," Rev. of Econ. Statis., May, 1940; "American policy concerning German monopolies," Dept. of State Bul., May 11, 1947.
- *FRANK, William A., 4956 S. Blackstone Ave., Chicago 15, Ill. (1947)
- FRANK, William F., Tech. Col., Normanton Rd., Derby, England. (1946) Derby Tech. Col., Dept. of Com. and Econ., sr. lecturer, teach., res.; b. 1915; Dr. jur., 1937, Charles Univ. at Prague; B.Com., 1941, M.Sc. (Econ.), 1944, LL.B., 1947, Univ. of London. Fields 10, 7, 11. Res. Full employment and industrial law.
- FRANKEL, S. Herbert, The Knoll House, Hinksey Hill, Oxford, England. (1943)
- FRANKLIN, B. M., 405 W. 23rd St., New York 11, N.Y. (1946)
- FRANKLIN, H. F., 990 Notre Dame St., W., Montreal, Que., Canada (1946)
- FRANKLIN, Robert John, Michigan State Col., East Lansing, Mich. (1948)
- FRANKS, Theodore W., 424 W. Oakdale Ave., Chicago, Ill. (1944)
- FRASER, Herbert Freeman, HQ, OMG, Wurttemberg-Baden, APO 154, c/o Postmaster, New York, N.Y. (1926)
- *FRASER, Herbert W., Princeton Univ., Econ. Dept., 227 Dickenson Hall, Princeton, N.J. (1948)
- FRAZER, George Enfield, 3900 Bd. of Trade Bldg., Chicago 4, Ill. (1935) Frazer and Torbet, sr. partner; b. 1889; B.A., 1909, Iowa; LL.B., 1912, Wisconsin; LL.D., 1939, Rockford, 1940, Washburn; L.H.D., 1942, Kenyon. Fields 11, 12, 14c. Dir. W.W. in Amer., Int. W.W.
- FREEDMAN, Arthur Merton, Bates Col., Dept. of Econ., Lewiston, Me. (1940) Bates Col., asst. prof., teach.; b. 1916; A.B., 1938, Toledo; A.M., 1939, Cincinnati. Fields 1ac, 7, 10. Doc. dis. Recent developments in interest theory.
- FREEDMAN, Robert, Jr., Univ. of Connecticut, Fort Trumbull Br., New London, Conn. (1948)
- FREEMAN, Cornelia Groth (Mrs. L. L.), 3400 Taylor Ave., Racine, Wis. (1946) B.A., 1926, Wisconsin; M.A., 1935, Chicago. Fields 10, 15e, 17d.
- FREEMAN, Edwin Stewart, 12 Benton St., Wellesley 81, Mass. (1924) Dennison Mfg. Co., company auditor, bus.; b. 1885. Fields 11ac, 6, 3c. Pub. "Cost analysis a science but pricing may be classed as an art," Controller, Jan., 1939; "Budgetary and financial policies of industrial corporations," Nat. Asso. of Cost Accountants Bul., Aug., 1944; "How to show effects of change

- in value of dollar in accounts," Jour. of Accountancy, Feb., 1948. Res. Uses of costs.
- FREEMAN, Herbert Charles, 960 N. Broadway, Yonkers, N.Y. (1917)
- FREEMAN, Ralph E., Massachusetts Inst. of Tech., Cambridge, Mass. (1930)
- FRENCH, Robert Warren, Univ. of Texas, Col. of Bus. Admin., Austin 12, Tex. (1934)
- FREUND, Alexander M., 4744 N. Marvine St., Philadelphia 41, Pa. (1944)
- FREUND, Rudolf E., State Col. Sta., Box 5073, Raleigh, N.C. (1947)
- FRICKEY, Edwin, Harvard Univ., Dept. of Econ., Cambridge, Mass. (1924)
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- *FRISCH, Ragnar, Videren, Oslo, Norway. (1948)
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- FRITZ, Wilbert G., 305 N. Kenmore St., Arlington, Va. (1930)
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- FUCHS, Ralph Follen, 1410 E. University St., Bloomington, Ind. (1946) Indiana Univ., prof. of law, teach.; b. 1899; A.B., LL.B., 1922, Washington Univ.; Ph.D., 1925, Brookings; J.S.D., 1935, Yale. Fields 12, 17, 16. Doc. dis. Some aspects of labor contract. Pub. "Labor contract," in Encyc. of Soc. Sci., 1932; "Collective labor agreements in American, German, and French law," St. Louis Law Rev., Yale Law Jour., 1924-32; "The task of procedure when social needs become legal rights," Soc. Serv. Rev., 1941. Res. Recent developments in federal antitrust policy.
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FULLER, Bert Cornelius, 2 Singer Ave., Spring Valley, Rockland Co., N.Y. (1916)

FULLER, Denton Albert, Jr., Citizens Nat. Bank, Wellsville, N.Y. (1936) Citizens Nat. Bank, chmn. of bd., pres., bus.; b. 1907; B.S., 1929, Miami Univ.; M.B.A., 1939, Buffalo. Fields 7, 8, 1a. Res. Development of management control information and charts for commercial banks.

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*FULTON, Joseph Frank, 172 W. 97th St., New York 25, N.Y. (1948) New York Univ., student; b. 1920; B.A., 1946, M.A., 1948, New York. Fields 10, 12a, lab.

FULTON, William G., 125 Avon St., Roselle Park, N.J. (1945)

FUNK, Arthur L., 53 First Ave., Greenville, Pa. (1947)

FUNKHOUSER, Richard Landis, 2431 Bryant St., Palo Alto, Calif. (1936) Transit Van Corp., secy., asst. treas., bus., res.; b. 1908; A.B., 1930, Dartmouth; M.A., 1934, Princeton. Fields 3ac, 11ac, 8a. Dir. Dir. of Schol.

FURMAN, John Pryor, 1365 Geranium St., N.W., Washington 12, D.C. (1947) Dept. of State, Office of Int. Trade Policy, Ind. Br., econ. govt. serv.; b. 1920; A.B., 1942, Princeton; LL.B., 1946, Yale; 1942-43, 1946, American. Fields 12, 10, 6. Pub. "Urban redevelopment," 1944, "Enforcement of section 2 of the Sherman Act" (co-author), 1945, Yale Law Jour.

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GADEHOLT, Bjorn, Pacific Power and Light Co., Pub. Serv. Bldg., Portland 4, Ore. (1941) Pacific Power and Light Co., rate engineer, dept. head, bus.; b. 1898; B.S., 1923, Oregon Inst. of Tech. Fields 13a, 11a, 8.

GAETJENS, Allen Kiefer, General Electric Co., Lamp Dept., East Cleveland 12, Ohio. (1946) General Electric Co., Lamp Dept., Mktg. Res. Div., mgr., bus., res.; b. 1912; B.S.E.E., 1934, Case Inst. of Tech. Field 11b.

GAFFEY, John Dean, 1311 Lexington Ave., Pasadena 6, Calif. (1940) Univ. of Southern California, Col. of Com. and Bus. Admin., Dept. of Mktg., dept. head, teach., res.; b. 1913; B.A., M.A., 1935, Ohio State; Ph.D., 1940, Columbia. Fields 11ab, 16, 14. Doc. dis. Productivity of labor in rubber tire manufacturing industry (Columbia Univ. Press, 1940). Pub. A postwar business review of Pacific Southwest (U.S. Dept. of Com., Los Angeles Reg. Office, 1947); "To how much wage is labor force entitled?" Proceed., Silver Bay Ind. Conf., 1940; "Recent trends in highway transportation," Distribution Age (Philadelphia), Aug., 1947. Res. Some new developments affecting efficiency of marketing process.

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GAINSBURGH, Martin R., Nat. Ind. Conf. Bd., 247 Park Ave., New York 17, N.Y. (1946) Nat. Ind. Conf. Bd., chief econ.; New York Univ., School of Com., lecturer; res., teach.; A.B., 1928, Rochester; 1929-32, Columbia. Fields 5, 17d, 3. Pub. "High level consumption, its behavior, its consequences" (with W. H. Lough), Trade-Ways, 1935; Domestic consumer markets (1948), Behavior of wages (with Jules Backman) (1948) (Nat. Ind. Conf. Bd.). Res. Changes in wealth structure, American manufacturing. Dir. W.W. in Amer.

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GALIGNIANA, Lucas Mario, Arenales 2439, Buenos Aires, Argentina, S. Amer. (1942) Nat. Univ. of La Plata, Faculty of Juridical and Soc. Sci., prof.; Nat. Univ. of Buenos Aires, Faculty of Law and Soc. Sci., prof., dir. of res. course of polit. econ., Faculty of Econ. Sci., prof.; teach., res.; b. 1909; 1934, London School of Econ.; 1935, Faculté de Droit (Paris); Lawyer, 1936, Nat. Univ. of Buenos Aires; summer, 1940, Columbia; Dr. in Jur., 1947, Nat. Univ. of Buenos Aires. Fields 4, 9, 1. Doc. dis. State intervention in economy in U.S.A. Pub. Predominant trends in economic relations in U.S.A. (1943), Maritime insurance in U.S.A. (1941) (Boletín Mensual del Seminario de la Facultad de Derecho de Buenos Aires); "International capital movements—capital import in Argentine," Centro de Investigaciones Permanente de Derecho Financiero, 1942. Res. Economic planning (Soviet Russia, Nazi Germany, "New Deal" Argentina).

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GALLOWAY, Lee, Lake Wales, Fla. (1909)

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GALPERT, (Mrs.) Edith Fain, 656 Campbell St., Williamsport, Pa. (1945)

GALPIN, Henry L., 145 Everitt St., New Haven 11, Conn. (1911)

GALSTER, Augusta E., 1207 W. Oregon St., Urbana, Ill. (1948)

GAMBLE, Philip L., Massachusetts State Col., Dept. of Econ., Amherst, Mass. (1945)

GAMBS, John Sake, 13 Griffen Rd., Clinton, N.Y. (1939) Hamilton Col., prof., teach.; b. 1899; B.S., 1920, M.A., 1924, George Washington; Ph.D., 1932, Columbia. Fields 1a, 16, 17b. Doc. dis. Decline of the I.W.W. (Columbia Univ. Press, 1932). Pub. Beyond supply and demand (Columbia Univ. Press, 1946). Dir. W.W. in East.

GAMSER, Howard Graham, 190 W. 170th St., New York 52, N.Y. (1945)

GANE, Frank Herbert, Northwestern Univ., School of Com., Evanston, Ill. (1934)

***GARBARINO, Joseph William**, 340 E. Oak Orchard St., Medina, N.Y. (1947) Harvard Univ., teach. fellow, res., teach.; b. 1919; B.A., 1942, Duquesne; M.A., 1947, Harvard. Fields 16, 12, 7. Res. Wage patterns in U.S. (doc. dis.)

GARBUNY, Siegfried, 120 W. 105th St., New York 25, N.Y. (1946) Brooklyn Col., instr., teach.; b. 1915; Diplomvolkswirt, 1936, Univ. of Berlin; 1939-41, Columbia. Fields 10, 7, 12. Pub. "Russia's claim to East Prussia," Apr., 1947, "The Ruhr—valley of decision," July, 1947, Cur. Hist.; "Pre-war Soviet-Japanese trade relations," Far Eastern Survey, Jan., 1948.

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GARDNER, Clinton Leon, 195 Broadway, New York 7, N.Y. (1947) Western Elec. Co., staff econ., res.; b. 1906; A.B., 1929, Denver; M.A., 1943, Columbia. Fields 6, 11c, 1a.

***GARDNER, Florence Isaacs (Mrs. H. Robert)**, 655 E. 14th St., New York 3, N.Y. (1947)

GARDNER, Frances A., 3755 McKinley St., N.W., Washington, D.C. (1944)

GARDNER, H. Robert, 655 E. 14th St., New York 3, N.Y. (1944)

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GARDNER, Walter Richmond, 115 W. Leland St., Chevy Chase 15, Md. (1940)

GARFIELD, Frank R., 510 Warwick Pl., Somerset, Chevy Chase 15, Md. (1941)

***GARFIELD, Frederick M.**, 80 John St., New York, N.Y. (1948)

GARG, K. S., Post Box 2, Ajmer, India. (1947)

GARIS, Roy Lawrence, Univ. of Southern California, Room 301, Admin. Bldg., Los Angeles 7, Calif. (1937) Univ. of Southern California, prof., teach., res., bus., govt. serv.; b. 1897; B.A., 1919, M.A., 1920, Virginia; Ph.D., 1927, Columbia. Fields 7, 10, 17b. Doc. dis. Immigration restriction (Macmillan, 1927). Pub. Money, credit and banking (Macmillan, 1934); "Gold clause in contracts," Annals, Dec., 1932-Jan., 1933; "Free enterprise and planned economy," Com. and Fin. Chron., Jan. 1, 1948. Dir. W.W. in Amer.

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***GARRIDO-TORRES, José**, 441 E. 20th St., Apt. 6-F, New York 10, N.Y. (1944) Brazilian Govt. Trade Bur., dir.; Brazilian Embassy, commercial attaché; govt. serv.; b. 1915; B.S., 1945, M.A., 1946, New York. Fields 10, 2, 4. Res. Economic unification of Brazil. Dir. Int. W.W.

***GARROD, Richard Milton**, 308 Italia St., Covina, Calif. (1946) Univ. of California, student; b. 1924; A.B., 1948, Univ. of California, Santa Barbara Col. Fields 13a, 6, 15d.

GARRONE, Nicola, Via Pisanelli 2, Rome, Italy. (1948) Univ. of Rome, prof., teach., bus.; b. 1877; Dipl., 1898, High School of Com. Bari, 1900, High School of Com., Venedig. Fields 7, 11. Pub. Scienza del Commercio (Francesco Vallardi, Milan, 1914, 1920, 1925, 1942); I Bilanci Commerciali in Tempi di Inflazione Monetari (Rivista Bancaria, 1924); Circolazione e Credito Negli Stati Uniti d'America (Edizioni Italiane, Rome, 1947).

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GARVER, Frederic B., Univ. of Minnesota, School of Bus. Admin., Minneapolis 14, Minn. (1911) Univ. of Minnesota, prof. of econ., teach., res.; b. 1884; A.B., 1909, LL.D., 1939, Nebraska; 1909-10, Wisconsin; 1912, Harvard; Ph.D., 1917, Chicago. Fields lab, 12b, 4a. Dir. W.W. in Amer.

GARVIN, Wilfred James, 315 Franklin St., N.E., Washington 2, D.C. (1947) Army Dept., Office of Food Admin., Food Group, asst. chief, govt. serv.; b. 1915; B.A., 1934, St. Francis Xavier Col.; M.A., 1935, Ph.D., 1941, Catholic Univ.; 1943-44, North Carolina. Fields 1ac, 3, 15b. Doc. dis. Some factors affecting supply of milk and milk products in Nova Scotia (Catholic Univ. Press, 1941).

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GASTON, J. Frank, 255-49 Upland Rd., Great Neck, N.Y. (1944)

GATES, Donald Elliott, 420 N. Victoria St., Mishawaka, Ind. (1947) Dodge Mfg. Corp., supv. of sales res. and planning, bus.; b. 1905; Chem. Eng., 1927, Purdue. Fields 11b, 14a, 6.

GATES, James Edward, Univ. of Georgia, Col. of Bus. Admin., Athens, Ga. (1947) Univ. of Georgia, Col. of Bus. Admin., Athens Div., dean, teach., res., bus.; b. 1908; B.S., 1929, 1929-30, Kentucky; 1930-31, Chicago; Ph.D., 1935, Virginia. Fields 14ac, 12, 9. Doc. dis. Municipally owned electric utilities in Virginia (Univ. of Virginia, 1933). Pub. Story of weatherproof solid fibre box (Weatherproof Solid Fibre Box Group, 1946). Res. Economics of paperboard industry.

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GAUMNITZ, Erwin Alfred, Univ. of Wisconsin, School of Com., Madison 6, Wis. (1945) Univ. of Wisconsin, School of Com., prof., asst. dean, dept. head, teach., res.; b. 1907; B.B.A., 1929, M.A., 1934, Ph.D., 1935, Minnesota. Fields 3ac, 8c, 6. Doc. dis. Theory of index numbers as developed in budget studies and cost of living (privately published, 1933). Pub. Social security and life insurance (Security Press, 1940); "Index of general business conditions," 1934, "Undistributed profits tax," 1936, Fin. and Invest. Rev. Res. Wage adjustments by use of cost-of-living index numbers; problems of measuring productivity of factors of production; regulation of insurance companies. Dir. Lead. in Educa.

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*GAWTHROP, Paul Roscoe, R.D. 1, Parkersburg, W.Va. (1948) Marietta Col., instr., teach., res.; b. 1915; A.B., 1946, Marietta Col.; M.A., 1948, Columbia. Fields 2, 11ab, 12a. Res. History of development of salt, petroleum, and chemical industries in Upper Ohio Valley (doc. dis.).

GAYER, Arthur David, 456 Riverside Dr., New York, N.Y. (1938)

GEE, Wilson, Univ. of Virginia, Minor Hall, Charlottesville, Va. (1923) Univ. of Virginia, prof. of rural econ.; Inst. for Res. in Soc. Sci., dir.; teach., res., edit.; b. 1888; B.S., 1908, D.Sc. (Hon.), 1937, Clemson Agric. Col.; M.A., 1910, South Carolina; Ph.D., 1913, California; LL.D., 1938, Alabama. Fields 15b, 17a, 4c. Pub. Social economics of agriculture (Macmillan, rev. 1942); Research barriers in the South (Century Co., 1932); American farm policy (Norton, 1934). Res. Research method and procedure in social sciences; economics of agricultural production. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

GEETING, Roy Eugene, Box 1865, Fort Myers, Fla. (1947) Thomas Alva Edison Col., dean, teach.; b. 1890; B.S., 1915, Miami Univ.; A.M., 1926, Michigan; Ph.D., 1934, Ohio State. Fields 1ab, 2a, 7. Doc. dis. Historical and critical survey of doctrine of oversaving (abstract, Ohio State Univ., 1934).

*GELFAND, Jack Emanuel, 711 Eastern Pkwy., Brooklyn 13, N.Y. (1947) New York Univ., student; b. 1919; B.A., 1943, M.A., 1948, Brooklyn Col.; 1947-48, New York. Fields 1a, 4, 6.

GEMMILL, Paul Fleming, Univ. of Pennsylvania, Logan Hall, Philadelphia 4, Pa. (1925)

Univ. of Pennsylvania, Grad. Group in Econ., chmn., prof. of econ., teach.; b. 1889; A.B., 1917, Swarthmore Col.; Ph.D., 1925, Pennsylvania. Fields 1a, 16, 4a. Doc. dis. Collective bargaining by actors (U.S. Bur. of Labor Statis., 1926). Pub. Present-day labor relations (Wiley, 1929); Fundamentals of economics (1930, 5th ed., 1948), Economics: principles and problems (1937, 3rd ed. 1948) (Harper). Dir. W.W. in Amer., Lead in Educa.

GENOVESE, Francis Charles, Univ. of Wisconsin, Dept. of Econ., Madison, Wis. (1948) Univ. of Wisconsin, instr., teach., res.; b. 1921; B.A., 1942, M.A., 1946, Univ. of Toronto; 1946-48, Wisconsin. Fields 1a, 12b, 17. Res. Doctoral dissertation either on economic institution of bankruptcy or on profit theory.

GEORGE, Edwin Black, Dun & Bradstreet, 290 Broadway, New York 8, N.Y. (1946) Dun & Bradstreet, econ., dept. head, res., govt. serv.; b. 1896; A.B., 1917, Pittsburgh; 1921, Georgetown. Fields 6, 4, 5. Pub. Use of wartime controls in transitional period (Govt., 1946); "Should full employment be underwritten?" 1947, "Significance of business size, 1937, Dun's Rev. Res. Causes and consequences of inflation, with pros and cons of proposed remedies. Dir. W.W. in Amer., in Com. and Ind., in East.

GEORGE, Henry C., Libbey-Owens-Ford Glass Co., Dist. Res. Dept., Nicholas Bldg., Toledo 3, Ohio. (1946)

GEORGE, W. D., People's Savings Bank Bldg., Pittsburgh, Pa. (1912)

*GERDES, Victor, 2110 Hollister Ave., Madison 5, Wis. (1947) Univ. of Wisconsin, student, part-time instr.; b. 1922; 1939-41, Texas A. and M. Col.; 1946, Omaha; B.S., 1947, Texas Tech. Col.; 1947-48, Wisconsin. Fields 8ab, 7, 1.

GERLANDO, Peter, 1213 Gallatin St., N.W., Washington 11, D.C. (1943)

GERNAND, Arthur C., OMGUS, Manpower Div., APO 742, c/o Postmaster, New York, N.Y. (1942)

GERRISH, (Mrs.) Catherine Ruggles, 60 Brattle St., Cambridge 38, Mass. (1936) A.B., 1932, A.M., 1934, Ph.D., 1937, Radcliffe. Fields 9, 17b, 4ab. Doc. dis. Financial history of Cambridge, Massachusetts, 1836-1929. Pub. "American public finance 1789-1943," in Growth of American economy (1944); "Treasury tax studies," Nat. Tax Jour., June, Sept., 1948; "Social and economic implications of national debt," Annals of Amer. Acad. of Polit. and Soc. Sci., Mar., 1941.

GERSCHENKRON, Alexander, Bd. of Gov. of Fed. Res. System, Washington 25, D.C. (1943) Bd. of Gov. of Fed. Res. System, Div. of Res. and Statis., For. Areas Sec., chief; George Washington Univ., prof. lecturer; govt. serv., teach.; b. 1904; Dr. rer. polit., 1928, Univ. of Vienna. Fields 2, 10, 4c. Pub. Bread and democracy in Germany (Univ. of California Press, 1943); Economic relations with U.S.S.R. (Carnegie Endow. for Int. Peace, 1945); "Rate of industrial growth in Russia since 1885," Jour. of Econ. Hist., Nov., 1947. Res. Russian economic history.

GESHERL, George F., 99 Pratt St., Hartford 3, Conn. (1948)

*GERSHOWITZ, Isidore, 2704 University Ave., New York 63, N.Y. (1947) City Col. of New York, instr., teach., res., govt. serv., bus.; b. 1920; B.S.S., 1941, City of New York; M.A., 1947, Columbia. Fields 16, 2a, 1b.

GERSTENBERG, Charles William, 70 Fifth Ave., New York 11, N.Y. (1910) Prentice-Hall, Inc., chmn. of Bd. J. edit., bus.; b. 1882; Ph.B., 1904, LL.B., 1905, J.D., 1916, New York. Fields 8a, 9. Pub. "Mathematics of cumulative voting," Jour. of Accountancy, 1908; Financial organization and management of business (1926), American constitutional law (1937) (Prentice-Hall). Dir. W.W. in Amer.

GERSTING, John Marshall, John Carroll Univ., School of Bus., Econ., and Govt., Univ. Heights, Cleveland 18, Ohio. (1945) John Carroll Univ., prof. of econ., teach., res.; b. 1902; B.S. in Econ.,

- 1924, A.M., 1925, Ph.D., 1932, Pennsylvania. Fields 10, 13b, 16. Doc. dis. Flexible provisions in U.S. tariff, 1922-30 (Westbrook Pub. Co., 1932). Pub. "Is the agricultural tariff protective?" *Annals of Amer. Acad.*, Jan., 1929; "Western aspects of Oriental trade," *Idaho Econ. Bul.*, May, 1927; "Balanced banking," *Miami Bus. Rev.*, May, 1938.
- GERTLER, Ann S.** (Mrs. Maynard), West St., Harrison, N.Y. (1947) Columbia Univ., School of Bus., teach. asst., teach.; b. 1922; A.B., 1943, Vassar; 1941-48 (intermittent), Columbia. Fields 2, 4, 12.
- GERTLER, Maynard**, West St., Harrison, N.Y. (1947)
- GETTELL, Richard Glenn**, 140 E. 37th St., New York 16, N.Y. (1938)
- GETZIN, Edmund Elmer**, 56A Crescent Rd., Greenbelt, Md. (1947) U.S. Dept. of Com., econ., govt. serv.; b. 1908; B.S., 1932, Buffalo. Fields 12b, 15c, 2.
- GHOZLAN, Mohamed Ibrahim**, 2682 Yale Sta., New Haven, Conn. (1947) Farouk I Univ., Law School, instr. in econ.; Ministry of Educa., Govt. Educa. Missions, memb. of mission to U.S.; teach.; b. 1922; LL.B., 1944, Farouk I Univ.; Dipl. of Adv. Studies in Econ., 1945, Fouad I Univ.; 1947-48, Yale. Field 1.
- GIBSON, Ernest Willis**, Box 214, Texas Tech. Sta., Lubbock, Tex. (1940) Texas Tech. Col., asst. prof. of acctg. and fin., teach.; b. 1884; A.B., 1903, Transylvania Univ.; M.A., 1929, Kentucky; 1912, Indiana; 1916, Peabody; 1930, Ohio State; 1932, Alabama; 1935-36, summer 1937, Northwestern. Fields 11ac, 7, 1.
- GIBSON, Roland**, Univ. of Illinois, Galesburg, Ill. (1947) Univ. of Illinois, asst. prof., teach., res., edit.; b. 1902; A.B., 1924, Dartmouth; M.A., 1940, Ph.D., 1947, Columbia. Fields 16, 4b, 12b. Doc. dis. Cotton textile wages in Great Britain and U.S., 1860-1945 (King's Crown Press, 1948).
- GIBSON, Weldon B.**, 515 Chaucer Ave., Palo Alto, Calif. (1946)
- GIBSON, William Gordon**, 43 W. Neck Ave., Huntington, N.Y. (1944)
- GIDEONSE, Harry David**, 1 Amherst Rd., Great Neck, L.I., N.Y. (1925)
- GIDEONSE, Max**, Rutgers Univ., Dept. of Econ., New Brunswick, N.J. (1930) Rutgers Univ., prof. of econ., teach.; b. 1904; A.B., 1925, A.M., 1926, Rochester; Ph.D., 1932, Harvard. Fields 10, 2a, 4a. Doc. dis. Dutch Baltic trade in eighteenth century. Pub. "Les Accords Commerciaux Réciproques et l'Administration Roosevelt," *Rev. Economique Internationale*, Aug., 1936; "Foreign trade and commercial policy since 1860," in *Growth of American economy* (Prentice-Hall, 1944); "U.S. foreign trade policy," *Rev. of N.J. Bus.*, Jan., 1948. Res. Proposed I.T.O.
- GIDUMAL, Hira**, 240 Broadway, New York 7, N.Y. (1947)
- GIEBINK, Gilbert G.**, 760 Grain Exch., Minneapolis 15, Minn. (1943) F. H. Peavy & Co., asst. gen. coun., bus.; b. 1915; 1933-35, Iowa; B.A., LL.B., 1939, Minnesota. Fields 12, 15ab, 9.
- GIFFIN, Roscoe Raymond**, Iowa State Col., Ames, Iowa. (1945)
- GIFFORD, Walter Sherman**, 195 Broadway, New York 7, N.Y. (1909) Amer. Tel. and Tel. Co., chmn. of Bd., bus.; b. 1885; A.B., 1905, Harvard; LL.D., 1928, Williams, 1929, Colgate; Sc.D. (Hon.), 1929, Oberlin; D.C.L. (Hon.), 1939, Union. Fields 13c, 11a, 6. Pub. "Does business want scholars," *Harper's*, 1928; "Pensions, charity and old age," *Atlantic Monthly*, 1930; "Can prosperity be managed," *Sat. Eve. Post.*, 1930. Dir. W.W. in Amer.
- GILBERT, Donald Wood**, Univ. of Rochester, Dept. of Econ., Rochester, N.Y. (1934)
- GILBERT, (Mrs.) Hilda Kessler**, 66, TVA Village 1, Sheffield, Ala. (1941)
- GILBERT, Horace Nathaniel**, California Inst. of Tech., Pasadena 4, Calif. (1928) California Inst. of Tech., prof. of bus. econ., teach., res.; b. 1901; A.B., 1923, Univ. of Washington; M.B.A., 1926, Harvard. Fields 11a, 14a, 10. Pub. Introduction to business (co-author) (McGraw-Hill, 2nd ed., 1932); "From industrial mobilization to war production," *Harvard Bus. Rev.*, 1942; *Industrial preparedness in aircraft industry* (Air Materiel Command, U.S. Air Forces, 1947).
- GILBERT, Milton**, 2920 Argyle Dr., Alexandria, Va. (1939) U.S. Dept. of Com., Nat. Ind. Div., chief, govt. serv.; b. 1909; B.S., 1931, Temple; M.A., 1933, Ph.D., 1937, Pennsylvania. Fields 5, 6, 10. Doc. dis. Currency depreciation and monetary policy (Univ. of Pennsylvania Press, 1939). Pub. Domestic and export pricing policy (INEC Mono. 6, 1940).
- GILBERT, Richard V.**, 2220 N. Quantico St., Arlington, Va. (1945)
- GILE, Buford Mourue**, 2195 Kleinert Ave., Baton Rouge 11, La. (1925) Louisiana State Univ., Dept. of Agric. Econ., dept. head, prof., teach., res.; b. 1889; B.S., 1913, Wisconsin; M.A., 1925, Ph.D., 1927, Minnesota. Fields 8a, 15a, 1a. Doc. dis. Farm credit situation in Minnesota (Minn. Agric. Exp. Sta., Tech. Bul. 55, 1928). Pub. Organization and management of agricultural credit corporations in Arkansas (Ark. Agric. Exp. Sta., Bul. 259, 1931); Economic utilization of rural land resources in Beauregard Parish, Louisiana (Bul. 322, 1940), State tax collections and allocations by parishes (Bul. 337, 1942) (La. Agric. Exp. Sta.). Res. Marketing, farm management, farm finance, agricultural statistics and prices.
- GILES, James Bernard**, Rice Inst., Econ. Dept., Houston 1, Tex. (1947) Rice Inst., asst. prof. of econ., teach.; b. 1914; B.B.A., 1936, M.A., 1937, Texas; summers, 1940, 1941, 1946, 1946-47, Columbia. Fields 6, 10, 13ab. Res. Influence of wage cost on rate of technological progress.
- GILL, John David**, 260 S. Broad St., Philadelphia 2, Pa. (1930) Atlantic Refining Co., econ., dir.; b. 1889; B.S. in Ch.E., 1911, Pennsylvania. Field 1.
- GILL, Joseph**, P.O. Box 1802, Tucson, Ariz. (1946) Univ. of Arizona, asst. prof. of bus. admin., teach., res.; b. 1912; B.S., 1936, Franklin and Marshall; M.B.A., 1946, New York. Fields 11ab, 1ab, 8c. Res. Decentralization of industry.
- GILLAM, Cornelius Willet**, Carleton Col., Northfield, Minn. (1946) Carleton Col., instr., teach., res.; b. 1927; summer, 1944, William and Mary; B.A., 1945, Carleton; M.A., 1946, 1947-48, Minnesota; summer, 1947, Chicago. Fields 12, 1a, 13. Res. Legal recognition and application of economic theory.
- GILLESPIE, Jesse Roscoe**, 1112 Beech St., South Pasadena, Calif. (1928) Los Angeles City Col., instr., teach.; b. 1892; B.S., 1925, James Millikin; M.A., 1928, Illinois. Fields 2a, 11, 1.
- GILLETT, Roy Lewis**, 164 Orchard St. (R.F.D. 1), Delmar, N.Y. (1920) N.Y. State Dept. of Agric. and Mkts., co-operating with Dir. of Agric. Statis.; U.S. Dept. of Agric., Bur. of Agric. Econ., agric. statis. in charge for N.Y.; govt. serv., edit.; b. 1891; B.S., 1917, Ph.D., 1922, Cornell Univ. Fields 3c, 15b, 17a. Doc. dis. Study of farm labor in Seneca County, New York (N.Y. State Dept. of Agric. and Mkts., 1924). Pub. Statistics relative to dairy industry in New York (1923-46). Agricultural statistics for New York (1932) (N.Y. State Dept. of Agric. and Mkts.); "Data needs in agricultural marketing" (with M. C. Bond), *Jour. of Farm Econ.*, May, 1943.
- GILLIATT, Neal**, 2527 Central Park Ave., Evanston, Ill. (1946) McCann-Erickson, Inc., account exec.; Northwestern Univ., lecturer; bus., teach.; b. 1917; B.S., 1939, Indiana; M.B.A., 1940, Northwestern. Fields 11b, 3a, 12.
- GILLIM, Marion Hamilton**, Mount Holyoke Col., South Hadley, Mass. (1940) Mount Holyoke Col., asso. prof. of econ. and soc., teach., res.; b. 1909; A.B., 1930, Mount Holyoke; A.M., 1938, Ph.D., 1944, Columbia. Fields 9, 3a, 10. Doc. dis. Incidence of excess profits taxation (Columbia Univ. Press, 1945). Dir. W.W. in New England.
- GILLINGHAM, John Benton**, Univ. of Washington, Inst. of Labor Econ., Seattle 5, Wash. (1946)

- GILLMAN, Joseph Moses**, 116 Poe St., Hartsdale, N.Y. (1944) On sabbatical leave, res., teach.; b. 1888; A.B., 1913, Western Reserve; A.M., 1915, Ph.D., 1926, Columbia. Fields 6, 16, 3a. Doc. dis. Rent levels in Pittsburgh and their causes (Univ. of Pittsburgh, 1926). Pub. "Statistics and immigration problem," Amer. Jour. of Soc., July, 1924; Business barometers for Pittsburgh district (Univ. of Pittsburgh, 1927); Demobilization and after—a challenge to American business enterprise (Pabst Postwar Emp. Awards, 1944). Res. Business fluctuations—causes and possible controls.
- GILMARTIN, William M.**, Int. Bank for Reconstruction and Development, Econ. Dept., 1818 H St., N.W., Washington 6, D.C. (1946) Int. Bank for Reconstruction and Development, econ., res.; b. 1913; A.B., 1934, Nevada; Ph.D., 1942, California. Fields 2b, 15b, 10. Doc. dis. Truck farming in U.S.; study of industrialization in agriculture. Pub. "Labor and agricultural migration to California," Monthly Labor Rev., July, 1941; "The promise of agrarian reform in Japan," For. Affairs, Jan., 1948.
- GILMORE, Eugene Allen, Jr.**, c/o Mail Room (Calcutta), Dept. of State, Washington 25, D.C. (1929)
- GILSON, Mary Barnett**, 28 Dover Rd., Wellesley 81, Mass. (1931) Webber Col., spec. lecturer on ind. rela., teach.; b. 1877; B.A., 1899, Wellesley; M.A., 1926, Columbia; 1935-36, London School of Econ.; LL.D., 1945, Russell Sage Col. Fields 16, 12a, 17c. Pub. "Unemployment insurance," in Ency. of Soc. Sci.; Unemployment insurance in Great Britain (Geo. Allen & Unwin, London, Ind. Rela. Coun., N.Y., 1931); What's past is prologue (Harper, 1940). Dir. W.W. in Amer., Int. W.W.
- GINSBERG, Seymour**, 6 E. 304th St., Shanks Village, Orangeburg, N.Y. (1944)
- GINSBURG, (Charles) David**, 2500 Que St., N.W., Apt. 513, Washington 7, D.C. (1943)
- GINSBURG, Woodrow L.**, United Rubber Workers' Bldg., High St. at Mill, Akron 8, Ohio. (1946)
- GINZBERG, Eli**, Columbia Univ., 609 School of Bus., New York 27, N.Y. (1931) Columbia Univ., asso. prof. of econ., res., teach.; b. 1911; A.B., 1931, A.M., 1932, Ph.D., 1934, Columbia. Fields 1ab, 16, 17b. Doc. dis. House of Adam Smith (Columbia Univ. Press, 1934). Pub. Illusion of economic stability (1939). The unemployed (1943) (Harper); The labor leader (Macmillan, 1948). Res. Determinants of occupational choice.
- GINZBURG, Benjamin**, 15 Willow St., Norwalk, Conn. (1938)
- GIRARD, Richard Anthony**, New York Univ., Washington Square Col., Dept. of Econ., New York, N.Y. (1930)
- GITELSON, M. Leo**, 845 West End Ave., New York, N.Y. (1924)
- GITLOW, Abraham L.**, Old Nyack Turnpike, Spring Valley, N.Y. (1946)
- GIVENS, Meredith Bruner**, 342 Madison Ave., Room 1127, New York 17, N.Y. (1923) N.Y. State Dept. of Labor, Div. of Place. and Unemp. Ins., dir. of res. and statis.; U.S. Bur. of Budget; consult.; res., govt. serv., teach.; b. 1899; A.B., 1920, Drake; 1920-21, Chicago; Ph.D., 1929, Wisconsin. Fields 16, 17b, 14a. Doc. dis. Productivity in iron and steel industry. Pub. "Shifting occupational patterns" (with R. G. Hurlin, in Recent social trends (1933); "Unemployment, 1920-27," in Recent economic changes (Nat. Bur. of Econ. Res., 1930); "Iron and steel industry," in Ency. of Soc. Sci. (1932). Res. Labor market. Dir. W.W. in Amer., Dir. of Schol., Int. W.W.
- GLADE, Frederick H., Jr.**, New York Univ., School of Com., Accts. and Fin., Washington Sq., New York 3, N.Y. (1942) New York Univ., School of Com., instr. of mktg. teach., res.; b. 1916; B.S., 1939, New York; 1939-40, Princeton; M.B.A., 1943, New York. Fields 11, 42, 17ad.
- *GLADSTEIN, Eli**, 2104 Crotona Pkwy., New York 60, N.Y. (1946) Long Island Univ., instr. of econ., teach., res.; b. 1922; B.S.S., 1942, City of New York; M.A., 1947, Columbia. Fields 16, 3a, 17b. Res. Theoretical concepts of wages and trade union actions (doc. dis.).
- GLAESER, Martin Gustave**, Univ. of Wisconsin, 314 Sterling Hall, Madison, Wis. (1920)
- GLAESER, W. W.**, Dun and Bradstreet, 326 Broadway, New York 8, N.Y. (1947)
- GLANTZ, Herbert H.**, 4321 Halley Ter., S.E., Washington 20, D.C. (1946)
- GLASNER, F. Russell**, 216 N. University St., Normal, Ill. (1946) Illinois State Normal Univ., asso. prof. of econ., teach., bus., res.; b. 1891; 1911, Iowa State Teachers Col.; M.A., 1932, Ph.D., 1934, Iowa. Fields 1, 16, 7. Doc. dis. An economic analysis of Agricultural Adjustment Act. Pub. Who are on relief (Illinois State Normal Univ., 1938); "Why a liberal? democratic state," Soc. Studies, 1938. Res. Gainfully employed's attitude toward and provisions for retirement.
- GLASER, Ezra**, 305 E. George Mason Rd., Falls Church, Va. (1938)
- GLASS, Henry Edward**, A.A.F. Inst. of Tech., Wright Field, Dayton, Ohio. (1947)
- GLASSER, Israel**, 115 Henry St., Brooklyn 2, N.Y. (1944)
- GLASSMAN, Alfred Richard**, 1052 E. 4th St., Brooklyn 30, N.Y. (1937) Acme Pallet Co., vice-pres., chief engr., bus.; b. 1910; B.C.S., 1934, New York. Fields 11ab, 14a, 6.
- GLASSMAN, Sidney**, United Nations, Dept. of Econ. Affairs, Lake Success, N.Y. (1946)
- GLAVES, Cecil Robert**, Illinois Inst. of Tech., 33rd and Federal, Chicago 16, Ill. (1937)
- GLENN, John Mark**, 45 Park Ave., New York 16, N.Y. (1894) Russell Sage Found.; b. 1858; M.A., 1879, LL.D., 1907, Washington and Lee; LL.B., 1882, Maryland; 1879-80, M.A. (Hon.), 1902, Johns Hopkins. Dir. W.W. in Amer., Dir. of Schol.
- GLICKMAN, David Lloyd**, 22-17 47th St., Astoria, L.I., N.Y. (1947) Port of N.Y. Authority, trade econ., govt. serv., res., teach., bus.; b. 1914; A.B., 1937, Brooklyn Col.; M.S.S., 1940, 1940-41, New School for Soc. Res. Fields 10, 2, 16. Pub. "British imperial preference system," Q.J.E., May, 1947; Big 4 in Germany (Nat. Plan. Assn., 1947); "War policy of British Labor Party," Soc. Res., Nov., 1941. Res. British labor: study in economic and political growth (doc. dis.).
- GLIDDEN, Robert Thorwald**, 6137 N. Glenwood Ave., Chicago 40, Ill. (1940) Int. Harvester Co., asst. secy., bus., res.; b. 1913; A.B., 1935, Dartmouth; A.M., 1942, Boston Univ. Fields 11a, 6, 1a.
- GLOCKER, Theodore Wesley**, Univ. of Tennessee, Col. of Bus. Admin., Knoxville, Tenn. (1937) Univ. of Tennessee, Col. of Bus. Admin., dean; b. 1881; A.B., 1903, Ph.D., 1907, Johns Hopkins. Fields 16, 8b. Doc. dis. Government of American trade unions (Johns Hopkins Univ. Press, 1913). Pub. Contrib. to Studies in American trade unions (edited by Hollander and Barnett) (Holt, 1906); "Amalgamation of related trade unions," A.E.R., 1914; "Protection of American investors," Annals, 1939. Dir. W.W. in Amer.
- GLOVER, Charles Arthur**, 515 Upper Mountain Ave., Upper Montclair, N.J. (1925) Amer. Tel. and Tel. Co., res.; b. 1890; B.S., 1921, California; M.B.A., 1923, Harvard. Fields 7, 8, 13c.
- GLOVER, John Desmond**, Morgan Hall, Soldiers Field, Boston 63, Mass. (1940) Harvard Univ., Grad. School of Bus. Admin., asst. prof. of bus. admin., teach., res.; b. 1915; Ph.B., 1936, Brown; M.B.A., 1939, A.M., 1942, Ph.D., 1948, Harvard. Fields 11a, 7, 4. Doc. dis. Public loans to private business. Pub. "Industrial loan policy of RFC," 1939; "Defense lending," 1918 and 1941; 1941, Harvard Bus. Rev.; "Training for a career in administration," Quar. Rev. of Com., 1947.
- GOEBEL, Richard Henry, Jr.**, 615 Prospect St., Westfield, N.J. (1946) Calif. Tex. Oil Co., Statis. Div., supv., dept. head, bus., res.; b. 1912; A.B., 1935, Lafayette Col.; A.M., 1940, Columbia. Fields 14a, 3ac, 11a. Pub. "Trends in concentration and integration," Nov., 1946, "Construction in post-

war economy," Mar., 1947. "Small enterprisers in the economy," Aug., 1947, Bus. Record (Nat. Ind. Conf. Bd.).

GOEHRING, Erwin Elmer, Valparaiso Univ., Valparaiso, Ind. (1946) Valparaiso Univ., Dept. of Bus. and Econ., dept. head, asso. prof. in bus. and econ., teach.; b. 1902; B.S. in B.A., 1927, Missouri; M.A., 1938, Chicago. Fields 7, 8ab, 9. Res. Appraisal of some security price forecasting services (master's thesis); current labor-management problems.

GOELTZ, J. Donald, 304 Colonial Rd., R. 81, Knoxville, Tenn. (1937)

GOETZ, Billy Earl, Allen Rd., R. 1, Yellow Springs, Ohio. (1936) Antioch Coll., prof., teach.; b. 1904; Ph.B., 1924, 1928-31, Chicago; 1926-28, Cornell Univ. Fields 11, 1a. Pub. "What's wrong with accounting," Fall, 1939. "Tomorrow's cost system," Dec., 1947. Advanced Mgt. Res. Managerial approach to industrial accounting; "Engineering economy and cost accounting," Jour. of Engr. Educa., Apr., 1940.

GOETZ, Jacob H., 944 Park Ave., New York 28, N.Y. (1914)

GOFF, John Hedges, 847 Ponce de Leon Pl., N.E., Atlanta, Ga. (1942) Emory Univ., prof. of bus. admin., teach., res.; b. 1899; A.B., 1919, M.A., 1920, Oglethorpe; Ph.D., 1929, Georgetown. Fields 13b, 10, 15bc. Doc. dis. Gums and resins of Latin America in world trade. Pub. "Los Transportes en El Misissipi y Sus Afluentes (Pan Amer. Union, 1933); "Interterritorial freight-rate problem of South," Southern Econ. Jour., Apr., 1940; "Grand Coulee Dam and Columbia Basin project," Emory Univ. Quar., Mar., 1947.

GOLD, Bela, 619 Southcrest Dr., Pittsburgh 26, Pa. (1938) Univ. of Pittsburgh, Bur. of Bus. Res., res. asso., School of Bus. Admin., asst. prof. of ind., teach., res.; b. 1915; B.S. in M.E., 1934, New York; Ph.D., 1948, Columbia. Fields 14a, 10, 3c. Doc. dis. Wartime economic planning in agriculture (Columbia Univ. Press, 1949). Pub. "Perspectives on capital formation and economic progress," Pittsburgh Bus. Rev., Apr. 30, 1948. Res. Analysis of changes in total costs, in composition of costs, and in unit costs for manufacturing industries in U.S. during 1899-1939.

*GOLD, Sonia Steinman (Mrs. Bela), 619 Southcrest Dr., Pittsburgh 26, Pa. (1942) B. 1917; B.A., 1938, Hunter Col.; 1939-40, American; 1940-41, Columbia. Fields 10, 1, 17.

GOLDBERG, Joseph Philip, 4083 Minnesota Ave., N.E., Washington 19, D.C. (1944) Research; b. 1918; B.S.S., 1937, City of New York; M.A., 1938, 1938-42, Columbia. Fields 16, 2, 13bc. Res. Maritime labor relations since 1900 (doc. dis., Columbia).

GOLDBERG, Rashelle, 101 W. 80th St., New York 24, N.Y. (1944) N.Y. State Employ. Serv., Reports and Anal. Unit, New York City Area, supv., econ., govt. serv., res.; B.A., 1924, Cornell Univ. Fields 17b, 16. Pub. Labor market development report, New York metropolitan region (N.Y.S. Dept. of Labor, Div. of Place. and Unemp. Ins., bimonthly report); Development of local area information on occupations (U.S. Employ. Serv., 1948); Employment and unemployment in bituminous coal areas (WPA, Nat. Res. Project, 1937). Res. Estimating employment and unemployment for a local area.

GOLDBERG, Samuel Peretz, 18 Clinton St., Brooklyn 2, N.Y. (1946) Coun. of Jewish Federations and Welfare Funds, asst. dir. of budget dept. head, res., edit.; b. 1912; B.S.S., 1941, 1942-43, City of New York; 1945-47, New School for Soc. Res. Fields 17ab, 9, 11ac. Pub. Study of fiscal administration and management (1948). Study of central administrative services of united service for new Americans (1947). Volume of Jewish immigration, 1946 and 1947 (1947) (Coun. of Jewish Federations and Welfare Funds). Res. Program, activities, and finances of a hundred major Jewish agencies in U.S.

GOLDBERG, Simon A., 3 Percy St., Apt. 6, Ottawa, Ont., Canada. (1947)

*GOLDEN, Philip, Columbia Univ., Fernald Hall, New York 27, N.Y. (1947) Columbia Univ., student; b. 1921; B.A., 1942, Minnesota; 1946-48, Columbia. Fields 1, 4, 6.

GOLDBERG, Leon, U.S. Embassy, Paris, France. (1936) U.S. Embassy, attaché, govt. serv., res.; b. 1904; B.C.S., 1925, Univ. of Liege; M.A., 1929, Chicago; Ph.D., 1941, Northwestern. Fields 10, 14a, 5. Doc. dis. Income and savings in France, 1871-1914. Pub. "Savings in a stationary population," Q.J.E., Nov., 1946. Res. Progress of economic recovery of France.

††GOLDENWEISER, Emanuel Alexander, 87 S. Stanworth Dr., Princeton, N.J. (1911) Inst. for Advanced Study, memb., res.; b. 1883; A.B., 1903, Columbia; A.M., 1905, Ph.D., 1907, Cornell Univ. Fields 7, 4, 9. Pub. "Immigrants in cities," U.S. Immigration Com., Reports, 1910; Federal Reserve System in operation (McGraw-Hill, 1925); Jobs (Postwar Econ. Studies, No. 1, Bd. of Gov. of Fed. Res. System, 1945). Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa. Int. W.W.

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GOLDFINGER, Nathaniel, 1757 K St., N.W., Washington 6, D.C. (1947) United Paperworkers of Amer., C.I.O., res. and educa. dir., res., edit.; b. 1916; B.S.S., 1938, City of New York; 1940-43, New School for Soc. Res.; 1948, American. Fields 16, 14a, 1a.

GOLDHAMMER, Bernard, 3014 N.E. 30th Ave., Portland 12, Ore. (1940) Bonneville Power Admin., econ., govt. serv., res.; b. 1915; B.A., 1937, Reed Col.; M.A., 1938, Colorado Col.; 1938-39, Iowa State Col.; 1939-42, California. Fields 13a, 3a, 17a. Pub. Columbia River power and taxation (1947). Economic perspective of Pacific Northwest, 1946 (1946). Economic base for power markets in Benton and Franklin Counties, Washington (1945) (Bonneville Power Admin.). Dir. W.W. on Pacific Coast.

GOLDIN, H. H., 1437 Somerset Pl., N.W., Apt. 207, Washington 11, D.C. (1947)

GOLDMAN, (Mrs.) Irene Seid, 55 E. Cedar St., Chicago 11, Ill. (1948) U.S. Railroad Retire. Bd., statis., govt. serv.; A.B., 1936, Kalamazoo Col.; M.A., 1938, Michigan; 1939-40, American. Fields 17b, 16, 6.

*GOLDMAN, Joseph, 435 W. 119th St., New York 27, N.Y. (1947)

GOLDNER, William, 4129 Pacheco St., San Francisco 16, Calif. (1940)

GOLDSEN, Joseph M., 1101 Cedar St., Santa Monica, Calif. (1945) Rand Corp., res., govt. serv.; b. 1916; B.B.A., 1937, City of New York; 1942-43, American. Fields 11a, 14ac, 16. Pub. Drugs to market: from manufacturer to consumer in drug industry (Nat. Wholesale Druggists Assn., 1945); "Montclair studies the shopping habits of its residents," Jour. of Mktg., Oct., 1945; "Manager meets union," in Human factors in management (Park Col. Press, 1946).

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GOLDSTEIN, Harold T., 4115 N. Fourth St., Arlington, Va. (1947)

GOLDSTEIN, Isadore Jack, 1248 Bay Ridge Pkwy., Brooklyn 28, N.Y. (1948) Brooklyn Col., instr., teach.; b. 1919; B.A., 1942, Brooklyn Col.; 1946-47, New York. Fields 3ac, 16, lab. Res. Trade union health and welfare plans in New York City area.

GOLDSTEIN, Sidney, 587 20th St., S., Arlington, Va. (1947) U.S. Bur. of Census, econ., govt. serv.; b. 1919; B.A., 1939, 1939-40, Brooklyn Col.; 1946-47, Georgetown. Fields 14a, 2a, 16.

***GOLDWASSER, Betti Carolyn** (Mrs. Ezra Glaser), 305 E. George Mason Rd., Falls Church, Va. (1938) U.S. Dept. of Com., Office of Int. Trade, program officer, govt. serv.; b. 1913; A.B., 1934, Bryn Mawr Col.; A.M., 1936, Radcliffe Col.; 1936-37, Brookings. Fields 12a, 14a, 10. Pub. "Assets and income of 200 largest nonfinancial and 50 largest financial corporate units" (with E. Glaser), in Structure of American economy (NRC, 1938).

GOLDWATER, Melvin Lyman, 5 Prospect Pl., New York 13, N.Y. (1942) Louis A. Boettiger Co., sales mgr.; New York Univ., instr. in econ.; bus., teach.; b. 1922; B.S., 1942, New York; 1942, Brown Univ.; M.B.A., 1947, New York. Fields 4a, 8a, 9.

***GOLMBE, Carter H.**, 36 E. Greywood, Shanks Village, Orangeburg, N.Y. (1947)

GOLEY, (Mrs.) Beatrice T., 122 Van Buren, N.W., Washington 12, D.C. (1945)

GOLIGHTLY, Trueman Harlan, 4010 W. Madison St., Chicago 24, Ill. (1941) Nat. Bank of Com. and Citizens Nat. Bank of Chicago, pres. and chmn. of bd., bus.; b. 1897; attended Northwestern. Fields 7, 11, 8. Pub. "Sound management, policies and regulation versus mandatory deposit-capital ratio as yardstick of depositor protection" (Ill. Bankers Assn., 1940).

GOLOVIN, Nicholas E., 1736 G St., N.W., Washington, D.C. (1941)

***GOMBERG, Mandel**, 5653 N. Spaulding Ave., Chicago 45, Ill. (1948) Univ. of Illinois, student, res.; b. 1924; B.S., 1947, Illinois. Fields 8ab, 11ac, 13c. Res. Financial policies of A. T. and T., 1928-48. (thesis).

GOMBERG, William, I.L.G.W.U., Mgt. Engr. Dept., 1710 Broadway, New York 19, N.Y. (1946) I.L.G.W.U., Mgt. Engr. Dept., dir., teach.; B.S., 1932, City of New York; M.A., 1940, New York; Ph.D., 1947, Columbia. Field 16 Doc. dis. A trade union analysis of time study (Sci. Res. Asso., Chicago, 1948). Pub. Labor union manual on job evaluation (Roosevelt Col., 1947); "Union interest in engineering techniques," Harvard Bus. Rev., 1946. Dir. W.W. in Labor.

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GONZALEZ, Richard Joseph, Humble Oil and Refining Co., Houston 1, Tex. (1935) Humble Oil and Refining Co., econ., bus.; b. 1912; B.A., 1931, M.A., 1932, Ph.D., 1934, Texas. Fields 3, 7, 6. Doc. dis. Some aspects of monetary use of silver.

GOODBAR, Joseph Ernest, P.O. Box 840, Portland, Me. (1937) Boston Univ., School of Law, lecturer; lawyer; teach., res.; b. 1890; B.A., 1910, Arkansas; LL.B., 1930, Boston Univ.; LL.M., 1931, S.J.D., 1933, Harvard. Fields 4b, 5, 6. Doc. dis. Conflict between banking law and economic law. Pub. Managing the people's money (Yale Univ. Press, 1935); A creative capitalism (Boston Univ. Press, 1948); "Muddling through monetary and economic law," Boston Univ. Law Rev., Apr., 1940. Dir. W.W. in Amer., Int. W.W.

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GOODEN, Orville Thrasher, Hendrix Col., Conway, Ark. (1920) Hendrix Col., dir. office examinations, prof. of econ., dept. head, teach.; b. 1889; A.B., 1914, Southwestern; M.A., 1916, Ph.D., 1926, Columbia. Fields 1ab, 16, 7. Doc. dis. Missouri and North Arkansas Railway strike (Columbia Univ. Studies, 1926).

GOODHUE, Everett Walton, Dartmouth Col., Hanover, N.H. (1905)

GOODMAN, Alexander Douglas, 245 E. 180th St., New York 57, N.Y. (1947) Stillman, Maynard & Co., security anal., res.; b. 1921; B.S., 1942, M.B.A., 1948, New York. Fields 8ab, 1ab, 13.

GOODMAN, Isaac Bernard, Univ. of California, Dept. of Econ., Berkeley 4, Calif. (1946) Univ. of California, Bur. of Bus. and Econ. Res., fellow, res.; b. 1923; B.Com., 1945, Toronto; 1945-48, California. Fields 10, 7, 1b. Res. Canadian commercial policy, 1930-48 (doc. dis.); Canadian foreign exchange control.

***GOODMAN, Oscar R.**, University Club, Madison, Wis. (1948) Univ. of Wisconsin, grad. asst., teach.; b. 1919; B.S. in B.A., 1943, Northwestern; M.S., 1947, Wisconsin. Fields 3a, 11b, 8b. Res. Sales forecasting methodology in Wisconsin industry.

GOODRICH, Carter, Columbia Univ., 501 Fayerweather Hall, New York 27, N.Y. (1921) Columbia Univ., prof. of econ., dept. head, teach., res., b. 1897; A.B., 1918, Amherst Col., Ph.D., 1921, Chicago. Fields 2a, 16, 17a. Doc. dis. Frontier of control (Harcourt, Brace, New York, and G. Bell, London, 1921). Pub. The miner's freedom (Marshall Jones, Boston, 1924); Migration and economic opportunity (sr. author) (Univ. of Pennsylvania Press, 1936); "Wage earner in westward movement" (with S. Davison), Polit. Sci. Quar., June, 1935, Mar., 1936. Res. Economic planning in American history. Dir. W.W. in Amer.

GOODRICH, Ernest E., Odd Fellows Bldg., St. Johnsbury, Vt. (1947)

GOODSTEIN, Barnett Maurice, 4441 Livingston Ave., Dallas 5, Tex. (1947) Fed. Res. Bank of Dallas, econ., res., teach., bus.; b. 1921; 1938-40, Rice Inst.; A.B., A.M., 1942, Texas. Fields 6, 10, 4a. Res. Small business; commercial failure.

GOODWIN, Eneas Bernard, Loyola Univ., Dept. of Econ., Chicago, Ill. (1932)

GOOTT, Daniel, 11 35th St., S.E., Washington 19, D.C. (1948)

GORDMAN, Howard S., 17322 Warrington Dr., Detroit 21, Mich. (1935)

GORDON, Benjamin Henry, 162 W. 56th St., New York 1, N.Y. (1947) U.S. Dept. of Com., Dom. Com. Staff, chief, bus., govt. serv.; A.B., 1908, LL.B., 1910, Harvard. Fields 11b, 6, 12b. Dir. W.W. in Amer.

***GORDON, Donald Flemming**, Cornell Univ., Dept. of Econ., Ithaca, N.Y. (1947) Cornell Univ., teach. fellow, teach., res.; b. 1923; B.A., 1944, Saskatchewan; M.A., 1946, Toronto. Fields 1ac, 6, 7. Res. Pure theory of employment and distribution (doc. dis.).

GORDON, Emanuel Leonard, 1711 E. 174th St., New York 60, N.Y. (1946) Poletti, Diamond, Freidin & Mackay, atty.; b. 1920; B.B.A., 1940, City of New York; LL.B., 1942, Columbia; 1946-48, New School for Soc. Res. Fields 16, 7. Pub. "Retroactivity of National War Labor Board awards," Columbia Law Rev., Nov., 1945; "Reviewability of tax court decisions," Tax Law Rev., Jan., 1947; "Nonreviewable tax court decisions," Proceed., Sixth Ann. Inst. of Fed. Tax. of New York Univ., 1948.

GORDON, Howard Scott, Carleton Col., Ottawa, Ont., Canada. (1946) Carleton Col., asst. prof., teach., res.; b. 1924; B.A., 1944, Dalhousie Univ.; A.M., 1947, Columbia. Fields 1a, 6, 3a. Res. Unemployment and theory of investment (doc. dis.).

GORDON, Jack, 55 Pineapple St., Brooklyn, N.Y. (1942)

GORDON, Kermit, Williams Col., Williamstown, Mass. (1947) Williams Col., asst. prof. of econ., teach.; b. 1916; B.A., 1938, Swarthmore; 1938-39, Oxford Univ.; 1940-41, Harvard. Fields 12, 1, 10.

GORDON, Leland James, Denison Univ., Granville, Ohio. (1939) Denison Univ., Dept. of Econ., dept. head, teach., res.; b. 1897; B.S. in Econ., 1922, M.A., 1924, Ph.D., 1928, Pennsylvania. Doc. dis. American relations with Turkey: an economic interpretation (Univ. of Pennsylvania Press, 1932). Pub. Economics for consumers (Amer. Book, 1939; rev. 1944); Consumer in wartime (Harper, 1943). Res. Introduction to economics—a consumer approach. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

GORDON, Lincoln, Harvard Bus. School, Soldiers Field, Boston 63, Mass. (1941) Harvard Grad. School of Bus. Admin., prof., teach., res., govt. serv.; b. 1913; A.B., 1933, Harvard; D.Phil. (Oxon.), 1936, Oxford Univ. Fields 12, 4ab, 10. Doc. dis. Public corporation in Great Britain (Oxford Univ. Press, 1938). Pub. Government and American economy (with M. Fainsod) (Norton, 1940; rev. 1948); "Fuel and power" in Industrial location and national policy (Nat. Res. Plan. Bd., 1941). Res. Critical and analytical history of industrial mobilization in World War II. Dir. W.W. in Amer., in New England.

GORDON, Louis D., 153 N. Virginia St., Reno, Nev. (1916)

GORDON, Margaret S. (Mrs. Robert A.), 45 San Mateo Rd., Berkeley 7, Calif. (1943) B. 1910; A.B., 1931, Bryn Mawr Col.; 1933-34, London School of Econ.; M.A., 1933, Ph.D., 1935, Radcliffe. Fields 10, 6, 7. Doc. dis. A prewar cycle in British trade, 1885-96. Pub. Barriers to world trade: study of recent commercial policy (1941), Industrialization of Japan and Manchukuo, 1930-40 (co-author) (1940) (Macmillan); "International aspects of American agricultural policy," A.E.R., Sept., 1946. Res. Business cycles in interwar period.

GORDON, Monte Jeffrey, 2836 Clafin Ave., New York 63, N.Y. (1942) Bache & Co., jr. security anal., res., bus.; b. 1923; B.A., 1947, Brooklyn Col.; M.A., 1948, Columbia. Fields 8b, 7, 9.

GORDON, Myron Jules, Carnegie Inst. of Tech., Pittsburgh 18, Pa. (1948) Carnegie Inst. of Tech., instr., teach., res.; b. 1920; B.A., 1941, Wisconsin; M.A., 1947, Harvard. Fields 5, 11c, 1a. Res. Some problems in taxation of corporate income (doc. dis.).

GORDON, Nathan N., 321 N. George Mason Dr., Arlington, Va. (1945)

GORDON, Robert Aaron, 45 San Mateo Rd., Berkeley 7, Calif. (1936) Univ. of California, prof., res., teach.; b. 1908; A.B., 1928, Johns Hopkins; M.A., 1931, Ph.D., 1934, Harvard. Fields 6, 1a, 12a. Doc. dis. Enterprise and "profits": with some applications to modern corporation. Pub. Business leadership in large corporation (Brookings, 1945); "Short-period price determination in theory and practice," A.E.R., June, 1948; "Enterprise, profits, and modern corporation," in Explorations in honor of F. W. Taussig (McGraw-Hill, 1936). Res. Re-examination of business fluctuations in interwar period.

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GORSKI, Romen von Sachsenberg, 310 W. 55th St., Apt. 5A, New York 19, N.Y. (1932) Asso. Col. of Upper New York, asst. prof., teach.; b. 1899; 1931, Columbia; 1931-34, Yale. Fields 8b, 10, 11a. Pub. "Polish Corridor—another Alsace Lorraine?" Annals of Amer. Acad. of Polit. and Soc. Sci., July, 1934.

GORT, Michael, 320 Riverside Dr., New York, N.Y. (1946)

GOSFIELD, Amor, Univ. of Pennsylvania, Econ. Dept., Philadelphia, Pa. (1948)

GOSS, Bert Crawford, 610 Shoreham Bldg., Washington 5, D.C. (1941) Hill & Knowlton, Inc., vice-pres.; b. 1907; A.B., 1928, Drury Col.; M.A., 1929, Chicago; D.C.S., 1933, New York. Fields 11, 12. Doc. dis. Preferred stock: legal accounting and financial aspects. Pub. Principles of social economics (co-editor) (Benziger Bros., 1934).

GOSTOMSKI, Adam, 65 Broadway, 16th Fl., New York 6, N.Y. (1945)

GOTSCHALL, John Clark, P.O. Box 35, Carpinteria, Calif. (1946)

GOTT, Philip Porter, 1 N. La Salle St., Chicago 2, Ill. (1941) Nat. Confectioners' Asso., pres.; b. 1889; B.A., 1915, Oberlin Col.; A.M., 1917, Columbia. Pub. "Trade associations—their growth, activities and new products," in Development of American industries (Prentice-Hall). Dir. W.W. in Amer.

GOTTESMAN, Edna, 68 W. 92nd St., New York 25, N.Y. (1946) Fed. Res. Bank of New York, econ., res.; B.A., 1943, Brooklyn Col.; M.A., 1944, Columbia; 1945-48, New School for Soc. Res. Fields 7, 10. Res. Japanese banking.

GOTTLEB, Elias, 2801 Sedgwick Ave., New York 63, N.Y. (1946)

GOTTLEB, Manuel, Pub. Fin. Br., Fin. Div., APO 742, c/o Postmaster, New York, N.Y. (1946)

GOTTSEGEN, Jack J., 2333 Huidekoper Pl., N.W., Washington 7, D.C. (1934)

GOUDRIAAN, Jan, Bachlaan 18, Hilversum, Holland. (1935)

GOULD, Harry Herbert, 420 Lexington Ave., New York 17, N.Y. (1946) This Week Mag., dir. of res., dept. head, res.; B.A., 1913, M.A., 1914, Iowa. Fields 3, 11b, 14ac.

GOULD, Jacob Martin, 13 W. 88th St., New York, N.Y. (1947) Econometric Inst., dir. of regional studies; Rutgers Univ., lecturer; res., teach.; b. 1915; B.A., 1936, Brooklyn Col.; M.A., 1938, Ph.D., 1946, Columbia. Fields 3ab, 15d, 13a. Doc. dis. Output and productivity in electric and gas utilities, 1899-1939 (Nat. Bur. of Econ. Res., 1946). Pub. "New American market," Bus. Week, 1947. Res. Sales management annual survey of buying power.

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tribution channels." Law and Contemp. Prob., 1941; Delaware income statistics (Univ. of Delaware, Bur. of Econ. and Bus. Res., 1941). Res. Economic and financial analysis of economies of major Far Eastern countries.

GOURRICH, Paul P., 3337½ Wilshire Blvd., Los Angeles 5, Calif. (1940)

GOURVITCH, Alexander, 25 Cooper St., New York 34, N.Y. (1926)

GOW, J. Steele, Maurice and Laura Falk Found., Farmers Bank Bldg., Pittsburgh 22, Pa. (1935)

GRAD, Andrew Jonah, 3119 76th St., Jackson Heights, N.Y. (1946) Suffolk Univ., asst. prof. of econ.; b. 1899; B.A., 1923, M.Ec., 1934, Harbin School of Law and Econ.; M.A., 1938, California; Ph.D., 1944, Columbia. Fields 1b, 15b, 3a. Doc. dis. Modern Korea (John Day, 1944). Pub. Formosa today (Inst. of Pacific Relat., 1942); "Cotton textile industry of Far Eastern countries," *Obzor Literaturny o Kitae*, 1932. Res. Japanese agriculture.

GRADY, (Mrs.) Eleanor Hunsdon, Hunter Col., 695 Park Ave., New York 21, N.Y. (1921) Hunter Col., dean of faculty, res.; b. 1886; A.B., 1908, Barnard Col.; A.M., 1911, Ph.D., 1930, Columbia. Fields 1b, 16, 4a. Doc. dis. Epigraphic sources of Delphic amphictyony. Dir. W.W. in Amer., Dir. of Schol.

GRADY, Henry Francis, c/o Mailing Div., Dept. of State, Washington, D.C. (1927)

GRAHAM, Benjamin, 52 Wall St., New York, N.Y. (1934)

GRAHAM, Frank Dunstone, 214 Western Way, Princeton, N.J. (1921)

GRAHAM, Herman Dominic, Fresno State Col., Fresno 4, Calif. (1947) Fresno State Col., asst. prof., teach.; b. 1918; B.Ed., 1938, Illinois State Normal Univ.; summer, 1941, Nat. Univ. of Mexico; A.M., 1939, Ph.D., 1947, Illinois. Fields 2, 13b, 7. Doc. dis. Economics of strip coal mining in Illinois (Univ. of Illinois, Bur. of Econ. and Bus. Res., 1948). Pub. "Strip coal mining in Illinois," Opinion and Comment (Univ. of Illinois), Nov. 18, 1947. Res. Analysis of present taxation of coal properties, with recommendations for change.

GRAHAM, John Joseph, 7 Court St., West Haven 16, Conn. (1944) N.Y., New Haven and Hartford R. Co., asst. commerce coun.; b. 1920; B.A., 1942, M.A., 1943, Yale; LL.B., 1946, Boston Col.; 1944-47, Boston Univ. Fields 13b, 9, 16. Res. American state debts.

GRAHAM, Willard J., 6817 Bennett Ave., Chicago 49, Ill. (1947) Univ. of Chicago, School of Bus., Exec. Program, dir., prof. of acctg.; Richard D. Irwin, Inc., dir., editor; teach., res., bus.; b. 1897; A.B., 1921, Tarkio Col.; A.M., 1924, Ph.D., 1934, Chicago. Fields 11c, 8a, 13a. Doc. dis. Public utility valuation (Univ. of Chicago Press, 1934). Pub. Accounting in law practice (with W. Katz) (Callaghan and Co., 1932, 1938); Economics of business (Amer. Tech. Soc., 1923). Dir. W.W. in Amer.

GRAMPP, William Dyer, 1311 Hyde Park Blvd., Chicago 15, Ill. (1944) Univ. of Illinois in Chicago, asst. prof., teach., res.; b. 1914; A.B., 1936, Akron; 1941, Columbia; A.M., 1942, Ph.D., 1944, Chicago. Fields 1ab, 6, 7. Doc. dis. Mercantilism and laissez faire in American political discussion, 1787-1829. Pub. "Politics of classical economists," Q.J.E., Aug., 1948; "Re-examination of Jeffersonian economics," Southern Econ. Jour., Jan., 1946; "Italian lira, 1938-45," J.P.E., Aug., 1946. Res. Economic policy and political philosophy in eighteenth century.

*GRANER, Frank Maxwell, 2237 Commonwealth Ave., Madison, Wis. (1946) Univ. of Wisconsin, asst. prof., teach., res.; B.A., 1939, Ohio Wesleyan; M.A., 1941, Kent State; Ph.D., 1948, Wisconsin. Fields 8ab, 7, 1. Doc. dis. Sources of corporate funds and their uses. Pub. Outline to accompany financial policies of business enterprise (co-author) (Wm. C. Brown, 1947). Res. Operations of security exchanges.

GRANT, Margaret, 9 Fairview Rd., Scarsdale, N.Y. (1947)

GRAS, Norman Scott Brien, 212 Baker Lib.,

Soldiers Field, Boston, Mass. (1918) Harvard School of Bus., prof.

GRAUE, Erwin, Univ. of Idaho, Moscow, Idaho. (1930) Univ. of Idaho, prof. of econ., teach., res.; b. 1895; B.S., 1923, Ph.D., 1928, Cornell Univ. Fields 6, 1. Doc. dis. Agriculture versus urban enterprise. Pub. "Forecasts of general price level," A.E.R., June, 1934; "Social cost of bad debt," Q.J.E., May, 1939; "Inventions and production," Rev. of Econ. Statis., Nov., 1943. Res. Science and social reconstruction. Dir. Dir. of Schol.

GRAVES, Lawrence B., Newberry Col., Newberry, S.C. (1947) Newberry Col., asso. prof., teach., res.; b. 1919; A.B., 1946, Newberry Col.; M.A., 1947, South Carolina. Fields 14a, 11ac, 2a. Res. Cotton textile development to present in Newberry County.

GRAVES, Richard Arthur, Univ. of Minnesota, 204 Vincent Hall, Minneapolis 14, Minn. (1945) Univ. of Minnesota, asst. prof.; B.A., 1909, B.A. in Ed., 1910, M.A., 1912, Minnesota. Fields 8c, 3a, 7.

*GRAY, Daniel Hale, 84 Capen Blvd., Eggertsville 14, N.Y. (1947) Univ. of Buffalo, lecturer, teach.; b. 1920; A.B., 1941, Hobart Col.; 1947-48, Buffalo; 1948, Chicago. Fields 1, 16, 4.

GRAY, Edith S., U.S. Children's Bur., Washington, D.C. (1912)

GRAY, Edward Rutherford, 3501 Williamsburg Lane, N.W., Washington, D.C. (1925)

GRAY, Horace M., Univ. of Illinois, Col. of Com., Dept. of Econ., Urbana, Ill. (1923)

GRAY, Laurence Roderick, Univ. of Arizona, Dept. of Econ., Tucson, Ariz. (1941) Univ. of Arizona, Col. of Bus. and Pub. Admin., Dept. of Econ., dept. head, prof. of econ., teach.; b. 1893; B.S., 1924, Southern Methodist; M.A., 1928, Michigan; Ph.D., 1938, Virginia. Fields 16, 1a. Doc. dis. Public utility regulation in Arizona. Pub. "Public utility competition," Jour. of Land and Pub. Util. Econ., May, 1939; Research manual (June, 1947). Questions and problems, elementary economics (July, 1947) (Univ. of Arizona Mailing Bur.).

GRAY, Robert Hanes, 24 E. Market St., Bethlehem, Pa. (1944)

GREBLER, Leo, Columbia Univ., School of Bus., 116th and Broadway, New York 27, N.Y. (1944) Inst. for Urban Land Use and Housing Studies, Columbia Univ., res. prof., res.; b. 1900; Ph.D., 1926, Univ. of Giessen (Germany). Fields 15e, 8b, 6. Pub. Cost of World War to Germany (Carnegie Endow.) (Yale Univ. Press, 1940); "Changing conditions in world capital markets," Harvard Bus. Rev., 1937; "Housing policy and building cycle," Rev. of Econ. Statis., 1942. Res. Production of housing.

GREEF, Albert Otto, Univ. of Connecticut, Storrs, Conn. (1924) Univ. of Connecticut, School of Bus. Admin., asso. prof. of fin., teach., res.; b. 1897; A.B., 1921, Kansas; M.A., 1922, Ph.D., 1936, Harvard. Fields 7, 8ab, 6. Doc. dis. Commercial paper house in U.S. (Harvard Univ. Press, 1938). Res. Branch banking in Connecticut.

GREEN, Edith H., 210 W. 70th St., New York 23, N.Y. (1946)

GREEN, Howard Whipple, 1001 Huron Rd., Cleveland 15, Ohio. (1946) Real Property Inventory of Metropolitan Cleveland, dir.; Cleveland Health Coun., secy.; Howard Whipple Green and Associates; res., bus., edit.; b. 1893; A.B., 1914, Clark Univ.; B.S. in San. Eng., 1916, M.I.T. and Harvard. Fields 17abd, 15e, 11b. Pub. Population characteristics by census tracts, Cleveland, Ohio, 1930 (Plain Dealer Pub. Co., 1931); Cleveland real property inventory (Real Property Inventory of Metropolitan Cleveland, 30 vols., 1933 to date). Res. Real property inventory current reports and market data handbook. Dir. W.W. in Amer., in Engr.

GREEN, Paul Martin, 300 N. Granada St., Arlington, Va. (1928)

GREENBAUM, Howard H., 73 Munson Ave., West Hempstead, L.I., N.Y. (1944) Brooklyn Col., instr., teach.; b. 1919; B.S., 1939, M.S., 1945, Co-

- lumbia. Fields 8a, 5, 11c. Res. Fund analysis of transactions in economic research (doc. dis.).
- *GREENFIELD, Harry, 534 W. 124th St., New York 27, N.Y. (1947)
- GREENSPAN, Benjamin, 345 Madison Ave., New York, N.Y. (1944)
- GREENWAY, J. Cole, 30 Vesey St., New York 7, N.Y. (1942) Asso. of Amer. Railroads, Eastern-Southern Region, reg. dir., dept. head, res., bus.; b. 1895; LL.B., 1924, St. Louis; 1927-34, Columbia. Fields 13b, 15ab, 12b. Dir. W.W. in Railroadings.
- GREENWOOD, Hans Peter, Bldg. 28, Apt. C-1, Ct. F, Stadium Ter., Champaign, Ill. (1947)
- GREGORIA, Sister Mary, Mundelein Col., Chicago, Ill. (1947)
- GREGORY, Homer Ewart, 5203 38th N.E., Seattle, Wash. (1947) Univ. of Washington, prof., teach., res.; b. 1886; A.B., 1914, Washington State Col.; A.M., 1917, Chicago. Fields 11c, 14a, 6. Pub. Accounting reports in business management (Ronald Press, 1928); North Pacific fisheries (Inst. of Pacific Rel., 1939); Aluminum (Richard D. Irwin, 1945). Res. Optimum plant costs. Dir. W.W. on Pacific Coast, in Amer. Educa., Lead, in Educa.
- GREGORY, Paul Michael, Box 74, Woman's Col., Univ. of North Carolina, Greensboro, N.C. (1940) Univ. of North Carolina, Woman's Col., asso. prof. of econ., teach., res.; b. 1917; A.B., 1938, Union Col.; M.A., 1939, Ph.D., 1942, Clark Univ. Fields 7, 9, 1ab. Doc. dis. Worcester mortgage market. Pub. "Imperfect competition in mortgage market," Southern Econ. Jour., Apr., 1944; "Appraisal of mortgage advertising," Harvard Bus. Rev., Autumn, 1944; "Mortgage portfolio of mutual savings banks," Q.J.E., Feb., 1947. Res. Economic analysis of fashion; obsolescence and economic theory; mortgage finance.
- GREGORY, William Logan, 6427 Clayton Rd., Clayton 17, Mo. (1934) Easton-Taylor Trust Co., pres., dir., bus.; b. 1898; attended Colorado School of Mines, Grad. School of Banking, Rutgers. Fields 7, 1ab, 6. Dir. W.W. in Amer., in Com. and Ind., Int. W.W.
- GREIF, Edwin Charles, Univ. of Texas, 214 Waggener Hall, Austin 12, Tex. (1948) Univ. of Texas, Col. of Bus. Admin., asst. prof., teach.; b. 1915; B.A., 1936, Pennsylvania; M.S., 1946, 1946-47, New York. Fields 11ab, 2a, 4. Res. Retail establishments in department store field.
- GREIG, Gertrud Berta, 101 Fairview Ave., Port Washington, N.Y. (1944)
- GRESHAM, Harold Dean, Amer. Univ. of Beirut, Beirut, Lebanon. (1932)
- GRETHER, Ewald Theophilus, Univ. of California, School of Bus. Admin., Berkeley 4, Calif. (1923) Univ. of California, Flood Found., prof. of econ., School of Bus. Admin., dean, teach., res., govt. serv., bus.; b. 1899; 1918-20, Heidelberg Col.; A.B., 1922, Nebraska; M.A., 1923, Ph.D., 1924, California. Fields 12, 11b, 1a. Doc. dis. Economics of John A. Hobson: study in welfare economics. Pub. Price control under fair trade legislation (Oxford Univ. Press, 1939); Steel and steel using in industries of California (Calif. State Printer, 1946); Resale price maintenance in Great Britain (Univ. of California Press, 1935). Dir. W.W. in Amer., Dir. of Schol., Lead, in Educa., Int. W.W.
- GREY, Alfred, 21 W. 58th St., New York 19, N.Y. (1946) Mgt. consult., bus., govt. serv.; b. 1902; C.A., 1932, Free Univ. of Poland; M.B.A., 1944, New York. Fields 11, 10, 5. Pub. Financial controls (Asso. of Banks, 1935); "For better international reports," Jour. of Accountancy, 1945; "Control of export premiums," Jour. of Sci. Mgt., 1934.
- GREY, Clara Katharine, 122 Schaeffer St., Brooklyn, N.Y. (1944)
- GRIFFENHAGEN, Edwin Oscar, 1100 Lake Shore Dr., Chicago 11, Ill. (1912)
- GRIFFIN, Albert, School of Bus. Admin., Emory University, Ga. (1934) Emory Univ., School of Bus. Admin., secy., asso. prof. of bus. admin., teach.; b. 1908; B.S. in Econ., 1930, M.A., 1933, 1933-39, Pennsylvania. Fields 7, 8, 10. Pub. Bank-
- ing (Bellman Pub. Co., 1945). Res. Financial consequences of Florida land boom of 1925 (doc. dis.).
- GRIFFIN, Arthur Gwynn, Davidson Col., Davidson, N.C. (1927) Davidson Col., asso. prof., teach.; b. 1901; A.B., 1921, A.M., 1923, North Carolina; 1930-31, Chicago. Fields 9, 1ab, 16. Res. Economic theory relative to implications for socialized medicine.
- GRIFFIN, Clare Elmer, Univ. of Michigan, School of Bus. Admin., Ann Arbor, Mich. (1920) Univ. of Michigan, School of Bus. Admin., Fred M. Taylor Prof. of Bus. Econ.; b. 1892; A.B., 1914, Albion Col.; M.A., 1915, Ph.D., 1918, Illinois. Fields 11b, 1ab, 4a. Doc. dis. History of railroads of Illinois. Pub. Principles of foreign trade (Macmillan, 1924, rev. 1934); Life history of automobiles (Univ. of Michigan, Bur. of Bus. Res., 1926). Res. Business incentives in relation to an expanding economy. Dir. W.W. in Amer., Lead, in Educa.
- GRIFFIN, John L., 115 Henry St., Brooklyn 2, N.Y. (1936) Col. of City of New York, School of Bus. and Civic Admin., instr. in econ., teach., res., govt. serv.; b. 1916; A.B., 1934, A.M., 1935, Georgetown; Ph.D., 1939, Columbia. Fields 3, 16, 1ac. Doc. dis. Strikes: study in quantitative economics (Columbia Univ. Press, 1939). Pub. American Federation of Labor and defense of Section 7(a) NIRA (Georgetown Univ., 1935); "Canadian strike trends, 1901-47," Public Affairs (Dalhousie Univ.), June, 1948; "Port of New York plans to meet competition," Bus. Bul., City Col. of New York, May, 1948. Res. Statistical study of strikes in U.S., 1880-1947; economic handbook of Port of N.Y.
- GRIFFITH, Edwin Claybrook, Washington and Lee Univ., 29 Sellers Ave., Lexington, Va. (1943) Washington and Lee Univ., asso. prof. of econ., teach., res.; b. 1915; A.B., 1936, Hampden-Sydney Col.; M.A., 1939, Ph.D., 1940, Virginia. Fields 16, 4ab, 1a. Doc. dis. Price policies of tin plate and tin container industries. Pub. "Deficit financing and future of capitalism," 1944, "Some aspects of South's financial development, 1929-46," 1948, Southern Econ. Jour.; "Labor union status and future of capitalism," Com. and Fin. Chron., 1945. Res. History of war manufacturing in Virginia. Dir. Who Knows--and What.
- GRIMES, Blaine E., 56 W. Winter St., Delaware, Ohio. (1947) Ohio Wesleyan Univ., asst. prof. of econ., teach., res.; b. 1918; A.B., 1939, M.A., 1941, Kansas; 1947-48, Ohio State. Fields 1, 10, 11b.
- GRISWOLD, John Alfred, Tuck School, Dartmouth Col., Hanover, N.H. (1946) Tuck School, Dartmouth Col., prof. of fin., teach., res.; b. 1907; A.B., 1929, James Millikin; A.M., 1930, Ph.D., 1936, Columbia; 1940-41, Harvard. Fields 8ab, 7, 2a. Doc. dis. History of Federal Reserve Bank of Chicago (Milligan Pub. Co., St. Louis, 1936). Pub. Banking situation (with H. P. Willis and others) (Columbia Univ. Press, 1938). Res. Financial management of corporations. Dir. W.W. in New England.
- GROAT, George Gorham, 475 Main St., Burlington, Vt. (1903) Univ. of Vermont, prof. emeritus of econ., teach., res.; b. 1871; A.B., 1895, Syracuse; A.M., 1901, Cornell Univ.; Ph.D., 1905, Columbia. Fields 16, 17cd, 2a. Doc. dis. Trade unions and the law in New York (Columbia Studies in Hist., 1905). Pub. Introduction to study of organized labor in America (Macmillan, 1916, rev. 1926). Dir. W.W. in Amer., Lead, in Educa.
- GRODINSKY, Julius, Univ. of Pennsylvania, 315 Hare Bldg., Philadelphia, Pa. (1941)
- GROKE, Paul O., Univ. of Arizona, School of Bus. and Pub. Admin., Tucson, Ariz. (1944)
- GROMAN, Elaine, 1419 46th St., Brooklyn 19, N.Y. (1947)
- GRONOUSKI, John Austin, Jr., 6 N. Main St., Orono, Me. (1946) Univ. of Maine, inst., teach., res.; b. 1919; Ph.B., 1942, Ph.M., 1947, 1947-48, Wisconsin. Fields 9, 7, 10. Res. Public debt (doc. dis.).
- GROSE, Lawrence, 429 18th St., N.E., Washington 2, D.C. (1947) U.S. Dept. of Com., econ. anal.,

govt. serv., res.; b. 1918; B.S.S., 1939, City of New York. Fields 5, 9, 3a.

GROSS, Bertram Myron, 613 S. Quincy St., Arlington, Va. (1941) Coun. of Econ. Advisers, asst. to chmn., govt. serv., res., teach.; b. 1912; B.A., 1933, M.A., 1935, Pennsylvania. Fields 4b, 12b, 15e. Pub. "Role of Council of Economic Advisers" (with E. G. Nourse), Amer. Polit. Sci. Rev., Apr., 1948; "Role of Congress in contract termination," Law and Contemp. Prob., Winter, 1944; Economics of housing (Grad. School, U. S. Dept. of Agric., 1940). Res. The legislative process.

GROSS, Theodore George, 2116 22nd St., Santa Monica, Calif. (1947) Theodore G. Gross & Co., pres.; Univ. of Southern California, instr. in mktg. and pub. rela.; Los Angeles Ch. of Com., Mktg. Com., chmn.; bus., teach., res.; b. 1912; B.S. in B.A., 1935, Southern California. Fields 11ab, 10, 4a. Pub. "Economic bases of public relations," Pub. Rela. Jour., 1947; Economics of dealer distribution—a yardstick to dealer adequacy (Pacific Coast Gas Assn. Ann. Convention, 1947). Res. Economic or market data source book of southern California.

GROSSCUP, George Charles, Jr., Univ. of Vermont, Dept. of Econ., Burlington, Vt. (1946) Univ. of Vermont, asso. prof., teach., res.; b. 1912; A.B., 1937, Beloit Col.; M.A., 1940, Miami Univ.; Ph.D., 1946, Wisconsin. Fields 1a, 3a, 7. Doc. dis. War-time food subsidies. Pub. "Ohio and trade barrier problem," Miami Bus. Rev., 1940; "Interstate trade barriers," Bus. Bul., Col. of City of New York, 1940. Res. Pattern of expenditures of students at University of Vermont.

GROSSE, Anne Pitts (Mrs. Robert N.), 255 W. 23rd St., New York, N.Y. (1947) Brooklyn Col., lecturer, teach., res.; b. 1925; A.B., 1945, Queens Col.; M.A., 1946, Kadeliffe. Fields 1ac, 3, 14a. Res. Raw materials in openhearth process (doc. dis.). GROSSE, Robert Nathan, 255 W. 23rd St., New York, N.Y. (1946) Rutgers Univ., instr., res., teach.; b. 1923; A.B., 1944, Columbia; M.A., 1946, Ph.D., 1948, Harvard. Fields 2a, 14a, 1a. Doc. dis. Determinants of size of iron and steel firms in U.S., 1920-80. Res. Chemical industries of New Jersey; history of American iron and steel industries.

GROSSMAN, Morton C., Apt. 18F, Badger, Wis. (1947)

GROVE, David L., Bd. of Gov. of Fed. Res. System, Washington 25, D.C. (1947)

GROVE, Ernest Wilson, 4210 12th Rd., S., Arlington, Va. (1940) U. S. Dept. of Agric., Bur. of Agric. Econ., agric. econ. statis., govt. serv., res.; b. 1910; A.B., 1932, 1932-36, California. Fields 5, 15b, 3c. Pub. "Concept of income parity for agriculture," in Studies in income and wealth (Nat. Bur. of Econ. Res., 1943); Soybeans in U.S.: recent trends and present economic status (U.S. Dept. of Agric., Tech. Bul. 619, 1938). Res. Income parity for agriculture (doc. dis.).

GROVES, Harold Martin, Univ. of Wisconsin, Sterling Hall, Madison 6, Wis. (1926) Univ. of Wisconsin, dept. head, prof., teach., govt. serv., res., edit.; b. 1897; Ph.B., 1919, Wisconsin; 1920-21, Harvard; summer, 1923, California at Los Angeles; Ph.M., 1921, Ph.D., 1927, Wisconsin. Fields 9, 7, 8ab. Doc. dis. Machinist in industry. Pub. Financing government (Holt, 1939, 1946); Federal, state and local fiscal relations (with Newcomer and Gulick) (Senate Doc. No. 69, 78th Cong., 1st sess., 1943); Postwar taxation and economic progress (McGraw-Hill, 1946). Res. Public finance, including comparative study of tax institutions in different countries. Dir. W.W. in Amer.

GRUBBS, Kenneth R., Box 271, Crandall, Tex. (1947) Texas A. and M. Col., instr., teach.; b. 1919; B.S., 1946, M.S., 1947, North Texas State Col.; 1948, California. Fields 1, 16, 13.

GRUBBS, W. M., Univ. of Georgia, Savannah Div., Hunter Field, Savannah, Ga. (1943)

GRUCHY, Allan Garfield, Univ. of Maryland, Dept. of Econ., College Park, Md. (1937) Univ. of Maryland, prof., teach., res.; b. 1906; B.A., 1926, British Columbia; M.A., 1929, McGill; Ph.D., 1931,

Virginia. Fields 1ab, 4ab, 7. Doc. dis. Supervision and control of Virginia state banks (Appleton-Century, 1937). Pub. Modern economic thought—American contribution (Prentice-Hall, 1947); "Philosophical basis of Keynesian economics," Ethics, July, 1948, Dir. Dir. of Schol.

**GRUEN, Berta Asch (Mrs. Edward D.), 158 Lafayette Circle, Cincinnati 20, Ohio. (1944)

GRUEN, Edward Dietrich, 158 Lafayette Circle, Cincinnati 20, Ohio. (1941) Univ. of Cincinnati, Col. of Bus. Admin., asst. prof. of fin., teach., res.; b. 1909; A.B., 1931, Dartmouth; 1940-41, 1946-47, Duke; 1939-40, Michigan. Fields 8a, 14a, 15bc. Res. Economic analysis of Douglas fir plywood industry (doc. dis., Duke).

GRUNBERG, Emile, Univ. of Akron, Dept. of Econ., Akron 4, Ohio. (1942) Univ. of Akron, asst. prof., teach.; b. 1905; M.A. 1929, Ph.D., 1930, Univ. of Frankfurt a. M.; 1940-42, Chicago. Fields 1a, 10, 4a. Doc. dis. Der Lohn in der Konjunkturlehre (Universitätsverlag Robert Noske, Leipzig, 1931). Pub. Der Mittelstand in der Kapitalistischen Gesellschaft (C. L. Hirschfeld, Leipzig, 1932); "Mobilization of capacity and resources of small-scale enterprises in Germany," Jour. of Bus., Univ. of Chicago, Oct., 1941, Jan., 1942. Res. Quantitative effects of international cartels.

GRUNER, Raymond William, 239 Crest Rd., Glen Ellyn, Ill. (1946) U. S. Govt., econ.; De Paul Univ., instr.; govt. serv., teach.; b. 1894; B.S., 1917, Illinois; M.A., 1935, Chicago. Fields 1ab, 16, 7. Res. Inquiry into social forces.

GRUNING, Charles Henry, P.O. Box 62, Mystic, Conn. (1927)

*GRUNWALD, Joseph, 2436 Linden Ave., Baltimore 17, Md. (1946) Adelphi Col., asst. prof., teach., res.; b. 1948; 1937-38, Univ. of Vienna; B.S., 1943, Johns Hopkins; 1946-48, Columbia. Fields 6, 4ab, 3ac. Res. Case study in planning (doc. dis.); concept of equilibrium in business cycle analysis.

GRUNWALD, Kurt, P.O. Box 764, Jerusalem, Israel. (1947)

GUEST, Harold Walter, Baker Univ., Baldwin, Kan. (1922) Baker Univ., prof. of econ. and bus. admin., dept. head, teach.; b. 1895; A.B., 1921, Albion Col.; A.M., 1922, Illinois; Ph.D., 1926, Stanford. Fields 9, 16, 7. Doc. dis. Social-psychological interpretation of public expenditures (under title, Public expenditure, G. P. Putnam's Sons, 1927). Pub. "Financial aspects of collective enterprise," in Development of collective enterprise (with S. Eldridge et al.) (Univ. of Kansas Press, 1943); "Classifications of public expenditures," A.E.R., Mar., 1930; "Public expenditure policies and trends," Annals, Jan., 1936. Res. The lockout as a form of labor conflict. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

GUILD, Charles J., Univ. of Florida, Col. of Bus. Admin., Gainesville, Fla. (1947)

GUILD, Elliott William, Univ. of Southern California, School of Pub. Admin., Los Angeles 7, Calif. (1946) Univ. of Southern California, asso. prof. of pub. admin., teach., res., govt. serv.; b. 1903; A.B., 1925, Wisconsin; M.A., 1931, Ph.D., 1935, Stanford. Fields 15e, 9, 17a. Doc. dis. Study of socialization processes. Res. Integrated curricula for training of city and regional planners.

GUILD, Lawrence Ridge, 239 S. Van Ness Ave., Los Angeles 4, Calif. (1926) Univ. of Southern California, Dept. of Mgt., dept. head, prof., and acting head, Dept. of Ind. Engr., teach., res.; b. 1901; 1918-19, Case Inst. of Tech.; B.A., 1922, M.A., 1925, Ph.D., 1927, Yale. Fields 11a, 16, 14a. Doc. dis. Labor conditions in larger villages of Ohio. Pub. Labor problems (with E. S. Furniss) (Houghton Mifflin, 1925); "The Pittsburgh graded tax," Jour. of Land and Pub. Util. Econ., Feb., 1930. Dir. W.W. in Amer.

GULICK, Charles Adams, Univ. of California, 119 South Hall, Berkeley 4, Calif. (1923) Univ. of California, prof. of econ., teach., res.; b. 1896; A.B., 1918, A.M., 1919, Texas; Ph.D., 1924, Columbia. Fields 16, 12, 4ab. Doc. dis. Labor policy of U. S. Steel Corporation (Columbia Univ. Press,

- 1924). Pub. Trust and corporation problems (with H. R. Seager) (Harper, 1929); Austria from Habsburg to Hitler (Univ. of California Press, 1948); "Some economic aspects of NIRA," *Columbia Law Jour.*, 1933. Res. Management-unit attitudes in U.S.; political activities of organized labor in U.S. Dir. Dir. of Schol., W.W. on Pacific Coast.
- GUMPERZ, Julian, 610 Fifth Ave., New York 20, N.Y. (1934) Self-employed, bus., res.; b. 1898; Ph.D., 1929, Univ. of Heidelberg, Germany. Fields 6, 1, 10. Pub. Agricultural depression in U.S. (1930).
- GUNIN, Sergei Theodore, 2716 29th St., S.E., Washington 20, D.C. (1944) Berlitz School, teacher, bus., govt. serv., res., teach.; b. 1891; LL.B., 1913, Univ. of Moscow, Russia; M.A., 1922, Pennsylvania. Fields 13b, 14a, 11b. Pub. "America and Russia," Red and Blue, 1922. Res. Russian transport—air, highways, and water.
- GUNN, Grace Thompson, 1731 20th St., N.W., Washington 9, D.C. (1944) U.S. Bur. of Budget, fiscal anal., govt. serv.; B.A., 1925, M.A., 1928, Northwestern; 1938-40 (part-time), Chicago. Fields 1c, 9, 3b. Pub. "Further measurement of marginal productivity" (with P. H. Douglas), May, 1940, "Production function for Australian manufacturing" (with P. H. Douglas), Nov., 1941, Q.J.E.; "Production function for American manufacturing in 1919" (with P. H. Douglas), A.E.K., Mar., 1941. Res. Studies of production.
- GUNNARSON, Arthur Bernard, 265 Beverly Rd., Scarsdale, N.Y. (1925) Nat. Asso. of Cost Accountants, secy., bus., teach., res.; b. 1896; A.B., 1920, Minnesota; M.B.A., 1924, Harvard. Fields 11bc, 3c, 12a.
- GUNZ, Martin K., 136 W. 75th St., New York 23, N.Y. (1944)
- *GUSTAFSON, Warren Arnold, 1001 S. Fifth St., Champaign, Ill. (1948) Univ. of Illinois, res.; b. 1920; 1940-41, Columbia; B.S., 1946, M.S., 1948, Illinois. Fields 7, 10, 1a. Res. International monetary fund.
- *GUTCHESS, Franklin J., 157 Coolidge Hill, Cambridge 38, Mass. (1945)
- GUTHMANN, Harry George, Northwestern Univ., School of Com., Evanston, Ill. (1919) Northwestern Univ., School of Com., prof., teach., res., bus.; b. 1896; A.B., 1917, Syracuse; M.B.A., 1921, New York; Ph.D., 1929, Chicago. Field 8, Doc. dis. Relation of maturity factor to yield differences among investment securities. Pub. Analysis of financial statements (1925, 1932). Investment principles and practices (1928, 1936, 1941), Corporate financial policy (1940, 1948) (Prentice-Hall). Dir. W.W. in Amer., Dir. of Schol.
- GUTHRIE, John A., State Col. of Washington, School of Bus. Admin., Pullman, Wash. (1941)
- *GUTIERREZ, Luis E., 1234 Drummond St., Apt. 6, Montreal, Que., Canada. (1947) El Salvador's consular serv., govt. serv.; b. 1916; B. Com., 1948, Sir George Williams Col. Fields 10, 5, 7.
- GUTMANN, Franz, Box 955, Davie Circle, Chapel Hill, N.C. (1939) Univ. of Goettingen, prof. emeritus; Univ. of North Carolina, lecturer, teach., res.; b. 1879; Ph.D. (Ec.), 1904, Strasbourg. Fields 7, 6, 2a. Doc. dis. Die soziale Gliederung der Bayern zur Zeit des Volksrechtes (Truebner, Strasbourg, 1906). Pub. Das franzoesische Geldwesen i. Kriege (1870-78) (Truebner, Strasbourg, 1913); Auslandskredite u. Auslandsverschuldung (Junker u. Duenhaupt, Berlin, 1930). Res. Biography of G. F. Knapp; business cycle theory in Germany. Dir. Dir. of Schol., Lead. in Educa.
- GUTTMAN, Bernard, 6325 N. Mozart Ave., Chicago 45, Ill. (1947) Hacker-Strauss, Inc., bus., res.; A.B., 1940, Chicago. Fields 11b, 14, 8.
- GUYTON, Percy L., King Col., Bristol, Tenn. (1945) King Col., prof., dept. head, teach., res.; b. 1905; B.S., 1927, Mississippi State Col.; M.B.A., 1932, Northwestern; 1936-38, Duke; 1938-39, Brookings. Fields 2, 11a, 9. Res. Federal government and cotton problem to 1860 (doc. dis.); value factors in relation to government expenditures.
- GUZIK, Leo, 32 Broadway, New York, N.Y. (1944)
- GWIN, James Martin, Univ. of Maryland, Dept. of Poultry Husbandry, College Park, Md. (1947) Univ. of Maryland, Dept. of Poultry Husbandry, teach., res.; b. 1906; R.S., 1931, Connecticut; M.A., 1941, American. Fields 12, 15, 11. Pub. Egg legislation and grades in U.S. (Nat. Asso. of Mktg. Officials, 1940); An economic analysis of egg legislation in U.S. (American Univ., 1941); "Effect of certain holding conditions on quality of dressed poultry," *Poultry Sci.*, May, 1948. Res. Poultry products.
- HAAS, Francis Joseph, 2006 Lake Dr., Grand Rapids, Mich. (1940) Grand Rapids, bishop; b. 1889; Ph.D., 1922, Catholic Univ.; LL.D., 1935, Wisconsin. Fields 16. Doc. dis. Shop collective bargaining (Univ. Press, Washington, D.C., 1922). Pub. Man and society (Appleton-Century, 1930); Rights and wrongs in industry (Paulist Press, 1933); "Three economic needs of 1880's and of 1940's," *Amer. Eccles. Rev.*, Dec., 1947. Dir. W.W. in Amer., Lead. in Educa.
- HAAS, George C., Treas. Dept., Dir. of Tech. Staff, Washington, D.C. (1936)
- HAASE, Herta, 1433 Belmont St., N.W., Washington 9, D.C. (1946)
- HABER, William, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1941)
- HABERLER, Gottfried, 326 Littauer Center, Cambridge 38, Mass. (1928) Harvard Univ., prof. of econ., teach., res., edit.; b. 1900; Dr. rer. pol., 1923, Dr. Jur., 1925, Univ. of Vienna. Fields 10, 6, 1a. Pub. Theory of international trade (Macmillan, 1935); Prosperity and depression (League of Nations, 1937); Consumer installment credit (Nat. Bur. of Econ. Res., 1942). Dir. W.W. in Amer., Dir. of Schol.
- HACKER, Emanuel A., 30 W. 12th St., New York 11, N.Y. (1940)
- HACKER, Louis Morton, Columbia Univ., New York 27, N.Y. (1934) Columbia Univ., prof. of econ.; Oxford Univ., England, Harmsworth prof. of American History, 1948-49; teach., res.; b. 1899; A.B., 1922, M.A., 1923, Columbia. Fields 2a, 4ab. Pub. Shaping of American tradition (Columbia Univ. Press, 1947); Triumph of American capitalism (Simon and Schuster, 1940); "First American revolution," *Columbia Univ. Quar.*, Sept., 1935. Res. Economic history of U.S., 1865-1900. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.
- HACKMAN, Joseph, 902 Agatite, Chicago 40, Ill. (1946) Roosevelt Col., asso. prof., teach.; b. 1908; Ph.B., 1931, A.M., 1938, Chicago. Fields 16, 7, 9. Pub. "The Fair Labor Standards Act of 1938," *Polit. Sci. Quar.*, Dec., 1938, Mar., 1939.
- HADCOCK, Editha, De Pauw Univ., Greencastle, Ind. (1948) De Pauw Univ., asso. prof., teach.; B.A., 1927, Mount Holyoke; M.A., 1931, Ph.D., 1946, Brown. Fields 16, 4, 1ab. Doc. dis. Labor problems in Rhode Island cotton mills, 1790-1940.
- HADIARIS, Nick Peter, 35 State St., Hart, Mich. (1947) Univ. of Mich., student; b. 1923; A.B., 1948, Michigan. Fields 1a, 11c, 3a.
- HADJIDOTOU, Tasso, 77, rue Charles Degroux, Brussels 4, Belgium. (1946)
- HADLEY, Clausin Dennis, Grad. School of Bus., Stanford University, Calif. (1936) Stanford Univ., acting asst. prof.; b. 1905; B.S., 1928, Oregon; M.B.A., 1930, Stanford; Ph.D., 1937, Wisconsin. Fields 3ac, 14, 6. Doc. dis. Industrial changes in Wisconsin. Pub. Wage payment plans used by Oregon manufacturers (Univ. of Oregon, 1929). Res. Forecasting methods.
- HADORN, Erwin Thomas, 220 Mumford Hall, Columbia, Mo. (1946) Univ. of Missouri, instr. in agric. econ., res., teach.; b. 1921; B.A., 1942, 1943-45, Univ. of Basle; 1942-43, Univ. of Lausanne; 1945-48, Missouri. Fields 15b, 6, 3c. Pub. Das Wetter als Konjunkturfaktor (A. Francke A.G., Berne, 1946). Res. Forecasting agricultural commodity prices.
- HAENSEL, Paul, 706 W. North St., Hinsdale, Ill. (1931) Northwestern Univ., prof. emeritus; b. 1878; B.Com., 1898, Acad. of Com., Moscow; Ph.D., 1904, M.A., 1908, LL.D., 1910, Imperial

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- HAHN, L. Albert, 830 Park Ave., New York 21, N.Y. (1943) B. 1889; Dr. jur. et phil., Freiburg, Heidelberg, Marburg, Berlin. Fields 7, 6, 1a. Pub. Volkswirtschaftliche Theorie des Bankkredits (1920, 1924, 1930); Geld und Kredit (1926), Geld und Kredit, Neue Folge (1930) (I.C.B. Mohr, Tubingen).
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- HALE, Robert L., Columbia Univ., New York 27, N.Y. (1911)
- HALES, Charles Albert, 1625 Avondale Ave., Knoxville 17, Tenn. (1936) Univ. of Tennessee, asso. prof., teach., res.; b. 1902; A.B., 1925, Randolph-Macon; 1927, Duke; Ph.D., 1938, Johns Hopkins. Fields 7, 9, lab. Doc. dis. The Baltimore clearing house (Johns Hopkins Univ. Press, 1940). Res. Savings and investments for people of limited means. Dir. Who Knows—and What.
- HALEY, Bernard Francis, 638 Salvatierra St., Stanford, Calif. (1926) Stanford Univ., prof., teach., res.; b. 1898; A.B., 1922, A.M., 1923, Stanford; A.M., 1926, Ph.D., 1933, Harvard. Fields lab, 10, 6. Doc. dis. Laws of varying cost. Pub. "Federal budget: economic consequences of deficit financing," Feb., 1941, "Relation between cartel policy and commodity agreement policy," May, 1946, A.E.R.; "Value and distribution," in Survey of contemporary economics (Blakiston, 1948). Dir. W.W. in Amer., Dir. of Schol.
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- HALL, Challis Alva, Jr., 1447 Chapel St., New Haven 11, Conn. (1938) Yale Univ., asst. prof., teach., res.; b. 1917; B.S., 1938, Kansas; A.M., Ph.D., 1943, Harvard. Fields 9, 7, 1a. Doc. dis. Theories of public debt: history and analysis. Res. Influence of federal taxation on retirement and profit sharing plans. Dir. W.W. in New England.
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- HALL, James Kendall, 12233 12th Ave., N.W., Seattle 77, Wash. (1930) Univ. of Washington, prof. of econ., teach.; b. 1902; A.B., 1925, A.M., 1926, Oregon; Ph.D., 1929, Stanford. Fields 9, 13a, 12b. Doc. dis. Telephone rates in theory and practice. Pub. A study of probated estates in Washington with reference to state tax system (Univ. of Washington Press, Oct., 1939); "Incidence of death duties," A.E.R., Mar., 1940; "Incidence of federal social security taxes," Q.J.E., Nov., 1938. Res. Limitations of fiscal policy; inflation and property assessments in Washington.
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HALL, R. Arthur, 500 E. 7th, Apt. A-1, Ellensburg, Wash. (1948) Central Washington Col., instr., teach.; b. 1913; B.A., 1935, 1948, Univ. of Washington. Fields lab, 9, 12a.

HALL, Sherman M., 4 Irving Pl., New York 3, N.Y. (1941) Consolidated Edison Co.; b. 1904; B.S., 1927, Worcester Poly. Inst. Fields 13a, 8ab, 14c. Pub. "Controlling factors affecting use of residential electric energy," Edison Elec. Inst. Bul., Mar., 1939; "Rent and income fix appliance market," Nov., 1936, "Appliance sales keyed to market analysis," Dec., 1936, Electrical World. Res. Nature of stockholders. Dir. W.W. in Engr.

HALL, Willard Sebern, Box 230, Centralia, Ill. (1929) Universal Butane Co., acct., bus., teach.; b. 1898; B.S., 1927, M.S., 1945, Illinois. Fields 11c, 2a, 1a.

HALL, William Scott, 103 Irvine Rd., Lexington 30, Ky. (1929) Transylvania Col., teach., dept. head; b. 1905; A.B., 1927, Swarthmore; A.M., 1928, Pennsylvania; Ph.D., 1934, Johns Hopkins. Fields 1, 16, 14a. Doc. dis. Journeyman Barbers International Union of America (Johns Hopkins Univ. Press, 1935). Pub. Kentucky manufacturing (Dept. of Revenue, 1941); A report on manufacturing (Com. for Kentucky, 1947).

HALLAUER, Frank Joseph, 3819 Jenifer St., N.W., Washington 15, D.C. (1944)

HALLER, William, Jr., 1185 N. Pleasant St., North Amherst, Mass. (1940) Univ. of Massachusetts, Dept. of Econ., asst. prof., teach.; b. 1914; B.A., 1936, Amherst; M.A., 1938, Columbia. Fields 2a, 13ab, 12. Res. The Puritan frontier—organization and development of New England towns, 1631-1660 (doc. dis.).

HAILEY, Donald Macdougall, Tulane Univ., Col. of Com. and Bus. Admin., New Orleans 15, La. (1925) Tulane Univ., Col. Com. and Bus. Admin., prof., teach., bus., res., govt. serv.; b. 1901; 1918-20, U.S. Naval Academy; B.A., 1923, Cornell Univ.; 1923-24, Cambridge Univ. (England); M.A., 1926, Northwestern; 1941-42, Harvard. Fields 8ab, 11a, 7. Res. History of naval aviation logistic support, World War II.

HALLOWELL, Burton Crosby, Box 158, Wesleyan Sta., Middletown, Conn. (1940) Wesleyan Univ., asst. prof. of econ., teach., res.; b. 1915; B.A., 1936, M.A., 1938, Wesleyan; 1938-40, Princeton. Fields 10, 1a, 6. Res. Some effects of international tin control scheme upon Bolivian economy (doc. dis.). Dir. W.W. in New England.

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HALTERMAN, John Frederick, Univ. of California, Santa Barbara, Calif. (1946) Univ. of California, Santa Barbara Col., prof. of econ., teach., res.; b. 1898; B.S., 1929, M.S., 1930, Ph.D.,

1935, California. Fields 16, 2, 11. Doc. dis. A functional analysis of cash expenditures of state of California, 1915-34. Pub. An economic survey of Santa Barbara (Bur. of Bus. and Econ. Res., Univ. of California, 1947); Industrial relations policy—Arthur Guinness, Son & Co., Ltd., St. James's Gate Brewery, Dublin, Eire, 1914-37 (privately published, 1948).

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HAM, William Thomas, 5101 Chevy Chase Pkwy., N.W., Washington, D.C. (1925)

HAMBERG, Daniel, 1639 S. 5th St., Philadelphia 48, Pa. (1946)

HAMILTON, Daniel Corning, 12 Park Ave., Bronxville 8, N.Y. (1946) Standard Oil Co. (N.J.), econ., res., bus.; b. 1918; A.B., 1941, M.B.A., 1943, Harvard; 1946-48, Columbia. Fields 12a, 1a, 10. Res. Competitive concept and public policy (doc. dis.); concept of "fundamental disequilibrium" and Latin-American exchange rates; Latin America and the international business cycle.

HAMILTON, David Boyce, Jr., Univ. of Texas, Dept. of Econ., Austin 12, Tex. (1946) Univ. of Texas, instr., teach.; b. 1918; A.B., 1940, M.A., 1941, 1946-47, Pittsburgh; summer, 1946, Columbia; 1947-48, Texas. Fields 1a, 13b, 8a.

HAMILTON, Earl J., Univ. of Chicago, Dept. of Econ., Chicago 37, Ill. (1929) Univ. of Chicago, prof., res., teach.; b. 1899; B.S., 1920, Mississippi State; M.A., 1924, Texas; Ph.D., 1929, Harvard. Fields 2a, 7, 1b. Pub. War and prices in Spain, 1651-1800 (1947), American treasure and price revolution in Spain, 1501-1650 (1934) (Harvard Univ. Press); First fifty years of Bank of Spain (Univ. of Chicago Press, 1948). Res. John Law's system; Francois Cabarrus—international financier of Napoleonic era; economic background of Monroe Doctrine. Dir. W.W. in Amer.

HAMILTON, Edward Parmelee, 440 4th Ave., New York 16, N.Y. (1924) John Wiley & Sons, pres.; b. 1883; C.E., 1907, Rensselaer Poly. Inst.

HAMILTON, Roger Stanton, Northeastern Univ., 360 Huntington Ave., Boston 15, Mass. (1935) Northeastern Univ., Col. of Bus. Admin., dean, teach., res.; b. 1904; 1923-25, Cornell Univ.; A.B., 1929, Pittsburgh; M.A., 1931, Tufts; Ph.D., 1940, Harvard. Fields 11, 16, 1. Doc. dis. Twenty-five years of workmen's compensation in Massachusetts. Res. Common sense of economics. Dir. W.W. in Amer., Lead. in Educa.

HAMILTON, Thomas Rowan, Box 1496, College Station, Tex. (1923) A. and M. College of Texas, Bus. Dept., prof., teach., res.; b. 1896; A.B., 1917, Washington and Lee; 1922-23, Pennsylvania; M.S., 1924, Ph.D., 1938, Columbia. Fields 3ac, 6, 15b. Doc. dis. Statistical study of wool prices (A. and M. Press, 1938). Pub. Economic phases of mohair industry in Texas (Bul. 444, 1932), Trends in production, consumption, and prices of mohair in Texas (1945), Trends in sheep and wool industry in Texas (1945) (Tex. Agric. Exp. Sta.). Dir. Who Knows—and What.

HAMILTON, Walton Hale, Yale Law School, New Haven, Conn. (1916)

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HAMMER, Milton, Bond Bldg., Room 227, Washington, D.C. (1944) Milton Hammer & Asso., pres., bus.; b. 1913; B.S., 1935, New York; M.A., 1945, American. Fields 12b, 14, 11. Pub. "Safety equipment in 1945," Mar., 1945, "Safety equipment in war production," Sept., 1944, Nat. Safety News.

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HAMMERMAN, Herbert, 1701 16th St., N.W., Washington 9, D.C. (1946)

HAMMOND, Seth, 101 N. Busey Ave., Urbana, Ill. (1938)

*HAMOT, Herman Bernard, 236 Ritner St., Philadelphia 48, Pa. (1948) Univ. of Pennsylvania, student; b. 1924; B.A., 1948, Temple; 1947-48, Pennsylvania. Fields 1a, 3a, 7.

HAMOVITCH, William, Univ. of Buffalo, Buffalo, N.Y. (1947) Univ. of Buffalo, lecturer; b. 1922; B. Com., 1943, McGill; M.P.A., 1945, M.A., 1946, Harvard. Fields 6, 9, 7. Res. Wages in business cycle (doc. dis.).

HAMPEL, Louis F., United Air Lines, Inc., 5959 S. Cicero Ave., Chicago 38, Ill. (1942) United Air Lines, dir. of budgets and res., dept. head, res.; b. 1908; B.S., 1930, Akron; M.B.A., 1931, 1938-40, Northwestern. Fields 13b, 3a, 14c. Pub. Workbook in business statistics (Richard D. Irwin, rev. ed., 1947). Res. Internal management problems.

HANCE, Wendell Deady, 2616 Ridge Ave., No. 5, Evanston, Ill. (1944) Northwestern Univ., School of Com., asst. prof., teach., res., govt. serv.; b. 1913; R.S., 1935, Northwestern; M.A., 1942, Harvard. Fields 12a, 6, 13b. Pub. "Adequacy of estimates available for computing net capital formation," in *Studies in income and wealth* (Nat. Bur. of Econ. Res., 1944).

HANCHETT, Paul Edward, George Washington Univ., 31 F Bldg., Washington 6, D.C. (1947) George Washington Univ., Dept. of Econ., asst. prof. of econ., teach., res.; b. 1916; 1934, Macalaster Col.; 1940, Chicago; R.A., 1937, B.S., 1939, M.A., 1941, Ph.D., 1946, Minnesota. Fields 1ac, 9, 5. Doc. dis. Federal income taxation of co-operative associations and their patrons.

HANCOCK, Glover Dunn, Washington and Lee Univ., Lexington, Va. (1908)

HANCOCK, Tom, Univ. of Arkansas, Col. of Bus. Admin., Fayetteville, Ark. (1946) Univ. of Arkansas, asst. prof., teach.; b. 1915; B.S., 1936, M.B.A., 1940, Kansas; 1941, Wisconsin. Fields 16, 9, 11ac.

HAND, George Henry, Fairmont State Col., Fairmont, W.Va. (1934) Fairmont State Col., pres.; b. 1903; A.B., 1928, West Virginia; A.M., 1933, Ph.D., 1939, Princeton. Fields 7, 9, 8a. Doc. dis. Some economic aspects of tax limitations in Ohio -1910-35. Dir. W.W. in Amer., Lead. in Educa., Int. W.W.

HANDLER, A. Benjamin, 3319 R St., N.W., Washington 7, D.C. (1946)

HANDLIN, Sarah, 1862 E. 9th St., Brooklyn 23, N.Y. (1947)

HANDSAKER, Morrison, Lafayette Col., 30 Sullivan Village, Easton, Pa. (1938) Lafayette Col., Econ. Dept., chmn., teach., res.; b. 1907; A.B., 1929, Reed Col.; Ph.D., 1939, Chicago. Fields 16, 1a, 9. Doc. dis. Chicago cleaning and dyeing industry: a case study in "controlled" competition (Univ. of Chicago Libraries, 1939). Pub. "Postwar labor market in Southern California," *Annals of Amer. Acad. of Polit. and Soc. Sci.*, July, 1942; "Experience rating in California's unemployment compensation law," Dec., 1940, "Monopolistic aspects of trade unionism," Dec., 1939, *Proceed., Pacific Coast Econ. Asso. Res. Forms of "secondary boycott."* Dir. W.W. in Amer. Educa.

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HANEY, Paul Edmond, 1000 Chandler Bldg., Washington 5, D.C. (1940) Sheridan, Farwell & Morrison, Inc., staff econ., res., bus.; b. 1909; 1928-30, George Washington; B.S., 1932, M.B.A., 1933, Northwestern. Fields 6, 8ab, 14ab.

HANKS, James Judge, Henry J. Kaiser Ind., 1200 Eighteenth St., Washington 6, D.C. (1947) Henry J. Kaiser Ind., asst. to vice-pres., bus., res.; b. 1907; B.A., 1929, Wisconsin; M.B.A., 1931,

Harvard. Fields 12, 14a, 13a. Pub. "Ready-made" residential electric consumer analyses," *Jour. of Land and Pub. Util. Econ.*, Aug., 1934; "Paper industry in the emergency," *Harvard Bus. Rev.*, Jan., 1941.

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HANNAY, Evan Bond, 10115 McKenney Ave., Apt. 203, Silver Spring, Md. (1947)

HANNINGTON, Ian, 1212 Hill Ave., Ann Arbor, Mich. (1947) Univ. of Michigan, student; B.A., 1948, Michigan. Fields 11c, 8a, 7.

HANSEN, Alvin Harvey, 231 Littauer Center, Cambridge, Mass. (1919) Harvard Univ., prof., teach., res., edit.; b. 1887; B.A., 1910, LL.D., 1936, Yankton; M.A., 1915, Ph.D., 1918, Wisconsin. Fields 6, 7, 5. Doc. dis. Cycles of prosperity and depression (Univ. of Wisconsin Studies, 1921). Pub. Fiscal policy and business cycles (1941), America's role in world economy (1945) (Norton); Economic policy and full employment (McGraw-Hill, 1947). Res. Business cycle analysis; monetary theory. Dir. W.W. in Amer., Int. W.W.

HANSEN, Andrew Julius, 1710 Bush St., San Francisco 9, Calif. (1948)

HANSEN, Morris Howard, Bur. of the Census, Washington, D.C. (1946)

HANSEN, Wesley J., Windham, Conn. (1944)

HANSON, Alice Cable (Mrs. Homer Jones), 3067 Ordway St., N.W., Washington 8, D.C. (1925) U.S. Bur. of Budget, econ., govt. serv., res., edit., teach.; b. 1904; A.B., 1925, M.A., 1928, Univ. of Washington. Fields 17d, 3c, 5. Pub. Incomes and expenditures of wage earners in Puerto Rico (Puerto Rico Dept. of Labor, 1947); Money disbursements of wage earners and clerical workers in 42 cities, 1934-36 (with F. M. Williams) (U.S. Govt. Prtg. Office, 1941); "The people as consumers," in *Recent social trends* (with R. S. Lynd) (McGraw-Hill, 1933). Res. How people lived in northern American colonies around 1776. Dir. Dir. of Schol.

HANSON, Arthur Warren, 219 Morgan Hall, Soldiers Field, Boston 63, Mass. (1924) Harvard Univ., prof., teach., res.; b. 1890; A.B., 1912, M.B.A., 1921, A.M., 1923, Harvard; LL.B., 1927, Litt.D. (Hon.), 1938, Suffolk. Fields 11c, 8a, 7. Pub. Problems in auditing (1930), Problems in accounting (with Sanders and Hosmer) (1934), Auditing: theory and its application (1942) (McGraw-Hill). Res. Study of clients of public accounting firms. Dir. W.W. in New England.

HAPPEL, Margaret, 267 Kennedy Ave., Pittsburgh 14, Pa. (1947) Maurice and Laura Falk Found., asst. to dir., res., edit., bus.; A.B., 1946, M.A., 1948, Pittsburgh. Fields 16, 11a, 12. Res. Regional industrial relations councils.

HARBESON, Robert Willis, Univ. of Illinois, Dept. of Econ., David Kinley Hall, Urbana, Ill. (1927) Univ. of Illinois, asso. prof. of econ., teach., res.; b. 1903; A.B., 1925, Western Reserve; A.M., 1926, Ph.D., 1931, Harvard. Fields 13, 12, 1a. Doc. dis. North Atlantic port differentials. Pub. Explorations in economics (with others) (McGraw-Hill, 1936); Transportation of fresh apples (with J. L. Nichols) (I.C.C. Statement No. 468, Mar., 1946); "Demise of fair value," *Mich. Law Rev.*, June, 1944. Res. Theory of price regulation.

HARRISON, Frederick H., 1361 E. 56th St., Chicago 37, Ill. (1939)

HARCOURT, Alfred, R. 1, Box 155, Riverside, Conn. (1942) Harcourt, Brace & Co., dir.; George S. Armstrong & Co., spec. consult.; b. 1881; B.A., 1904, Columbia. Field 11. Dir. W.W. in Amer.

HARDIN, Rector Roemilt, Howard Col., Birmingham 6, Ala. (1943) Howard Col., Dept. of Econ. and Bus. Admin., dept. head, prof. of econ.; b. 1902; A.B., 1929, Berea; M.A., 1932, Ph.D.,

- 1935, Duke; summer, 1936, 1940, Harvard. Fields 1b, 2, 11. Doc. dis. Place of treasure in English and French mercantilism. Pub. Interstate trade barriers in Kentucky (Courier Jour., Louisville, Ky., 1940); "Decentralization in Southern Appalachia," Mountain Life and Work, 1945; "Price control, pressure groups, and inflation," Berea Almanus, 1945. Res. Treasure and trade in English mercantilism; history of economic thought. Dir. W.W. in Educa., Dir. of Schol.
- HARDMAN, Jacob B. S.**, 55 W. 11th St., New York 11, N.Y. (1947) Inter-Union Inst., Inc., chmn.; Labor and Nation, editor; res.; b. 1882; 1906-08, Univ. of Petersburg; 1910-12, Columbia. Field 16. Pub. American labor dynamics (co-author and editor) (Harcourt, Brace, 1928); Rendezvous with destiny (Dryden, 1944). Res. Trends in labor leadership. Dir. W.W. in East, in Labor, Lead, in Educa.
- HARDY, Charles Oscar**, 6137 First Pl., N.E., Washington 11, D.C. (1919) Joint Cong. Com. on Econ. Report, staff dir., govt. serv.; b. 1884; A.B., 1904, LL.D., 1935, Ottawa Univ. (Kansas); Ph.D., 1916, Chicago. Fields 6, 7, 12b. Doc. dis. Negro question in French Revolution (Banta Press, 1919). Pub. Credit policies of Federal Reserve System (Brookings, 1932); "Schumpeter on capitalism, socialism, and democracy," J.P.E., Dec., 1945; Risk and risk-bearing (Univ. of Chicago Press, 1923). Res. Stabilization of business activity. Dir. W.W. in Amer., Dir. of Schol., Lead, in Educa.
- HARDY, Harold Ernest**, Univ. of Massachusetts, Amherst, Mass. (1943) Univ. of Massachusetts, prof. of bus. admin., teach.; b. 1903; A.D., 1925, Pomona Col.; 1939, Iowa State Col.; Ph.D., 1943, Minnesota. Fields 11b, 12a, 1a. Res. Integration of manufacturing and chain distribution—with special reference to food products (doc. dis.).
- HARDY, J. Hazen, Jr.**, 537 Country Club Lane, Havertown, Pa. (1948)
- HARING, Harry Albert**, Indiana Univ., School of Bus., Bloomington, Ind. (1928)
- HARKAVY, Oscar**, Syracuse Univ., Col. of Bus. Admin., Syracuse 10, N.Y. (1948) Syracuse Univ., Col. of Bus. Admin., instr., teach., res.; b. 1923; A.B., 1944, Columbia; 1948, Syracuse. Fields 3a, 8a, 7, Res. Small business financing (master's thesis).
- HARLAN, Charles Le Roy**, 4722 N. 26th St., Arlington, Va. (1920)
- HARMS, Louis Theodore**, 1502 W. Allegheny Ave., Philadelphia 32, Pa. (1948) Temple Univ., instr.; b. 1916; B.S., 1939, M.Ed., 1940, Temple; 1948, Pennsylvania. Fields 1b, 4b, 7.
- HARPER, Floyd Arthur**, Found. for Econ. Educa., Inc., Irvington-on-Hudson, N.Y. (1945) Found. for Econ. Educa., res., teach., edit.; b. 1905; B.S., 1926 Michigan State Col.; Ph.D., 1932, Cornell Univ. Fields 4a, 7, 17d. Doc. dis. Co-operative purchasing and marketing organizations in New York State (Cornell Univ. Exp. Sta., Oct., 1932). Pub. The world's hunger (with F. A. Pearson) (Cornell Univ. Press, 1945); Crisis of free market (Nat. Ind. Conf. Bd., 1945); High prices (Found. for Econ. Educa., 1948). Res. Capital, exchange process, money. Dir. W.W. in Amer., Int. W.W.
- HARRIGAN, Arthur W., Jr.**, 138 Denhoff Ave., Freeport, L.I., N.Y. (1943) Western Electric Co., purch. res., bus., res.; b. 1919; B.S., 1942, M.B.A., 1948, New York. Fields 6, 11, 12.
- HARRIMAN, Edward A.**, 1226 E. Foothill Blvd., Altadena, Calif. (1914)
- HARRIS, Abram Lincoln**, Univ. of Chicago, Box 268, Faculty Exch., Chicago 37, Ill. (1934) Univ. of Chicago, asso. prof. of econ., teach., res.; b. 1899; B.S., 1922, LL.D., 1948, Virginia Union Univ.; M.A., 1924, Pittsburgh; Ph.D., 1931, Columbia. Fields 4a, 1ab, 16. Doc. dis. The black worker (Columbia Univ. Press, 1931). Pub. Social philosophy of Karl Marx (Ethics, 1948); "Types of institutionalism," Dec., 1932, "Economic evolution: dialectical and Darwinian." Feb., 1934, J.P.E. Res. Social philosophy of Karl Marx; institutionalism. Dir. W.W. in Amer., Dir. of Schol.
- HARRIS, Frank, Marlyn Apts.**, Apt. 115, 3000 39th St., Washington 16, D.C. (1943)
- HARRIS, Seymour Edwin**, 10 Trail St., Cambridge 38, Mass. (1926) Harvard Univ., prof. of econ., teach., res., edit.; b. 1897; A.B., 1920, Ph.D., 1926, Harvard. Fields 10, 7, 17b. Doc. dis. The Assignats (Harvard Univ. Press, 1930). Pub. The new economics (Knopf, 1947); Twenty years of Federal Reserve policy (Harvard Univ. Press, 1933); Economics of social security (McGraw-Hill, 1941). Res. Economics and science; supply and demand for educated. Dir. W.W. in Amer., in Com. and Ind., Dir. of Schol., Lead, in Educa., Int. W.W.
- HARRIS, W. Carlton**, 3125 W. Penn St., Philadelphia 29, Pa. (1925) Univ. of Pennsylvania, prof., teach., res.; b. 1890; LL.B., 1913, Ph.D., 1930, Pennsylvania. Fields 7, 15e, 8ab. Doc. dis. Banking theory and practice (McGraw-Hill, 1927, 2nd ed., 1936). Pub. Real estate (John C. Winston & Co.).
- HARRISON, George M.**, 701 Brotherhood Bldg., Cincinnati, Ohio. (1942)
- HARRISON, Robert Willmott**, Louisiana State Univ., 116 Prescott Hall, Baton Rouge, La. (1945) U.S. Dept. of Agric., Bur. of Agric. Econ., agric. econ., res.; b. 1917; B.S., 1938, Kentucky; M.S., 1940, Maryland. Fields 15ad, 2a, 16. Pub. Classification of agricultural areas, Frederick County, Md. (Md. Agric. Exp. Sta., Apr., 1941); Drainage reclamation in Bartholomew, Beauf, Tensas Basin of Arkansas and Louisiana (Ark. Agric. Exp. Sta., June, 1948); "Drainage reclamation in coastal marshlands of Mississippi River delta (La. Hist. Soc. 1947). Res. Land settlement and land development in alluvial valley of lower Mississippi River.
- HARRISON, Shelby Millard**, 130 E. 22nd St., New York, N.Y. (1933)
- HARRISS, Clement Lowell**, Columbia Univ., Hamilton Hall, New York 27, N.Y. (1937) Columbia Univ., asst. prof.; Nat. Bur. of Econ. Res., memb. res. staff, res., teach.; b. 1912; B.S., 1934, Harvard; 1936-38, Chicago; Ph.D., 1940, Columbia. Fields 9, 7, 15e. Doc. dis. Gift taxation in U.S. (Amer. Coun. on Pub. Affairs, 1940). Pub. "Revenue implications on a progressive rate tax on expenditures," Rev. of Econ. Statis., Aug., 1943; "Philanthropy and federal tax exemption," J.P.E., Aug., 1939; Income size distribution in U.S. (editor and co-author) (Nat. Bur. of Econ. Res., 1943). Res. Economic aspects of death and gift taxation; wealth distribution and management; operations of Home Owners' Loan Corporation. Dir. W.W. in the East.
- HART, Albert Galford**, Columbia Univ., 504 Fayerweather Hall, New York 27, N.Y. (1936) Columbia Univ., Faculty of Polit. Sci., prof. of econ., teach., res.; b. 1909; B.A., 1930, Harvard; 1930-31, Vienna; 1934-35, London School of Econ.; Ph.D., 1936, Chicago. Fields 1a, 7, 5. Doc. dis. Anticipations, business planning and cycle. Pub. Money, debt and economic activity (Prentice-Hall, 1948); Anticipations, uncertainty and dynamic planning (Univ. of Chicago Press, 1940); Debts and recovery (Twentieth Century Fund, 1938). Res. Economic theory.
- HART, Alex. L.**, 141-24, 79th Ave., Flushing, L.I., N.Y. (1947) Port of N.Y. Authority, Bur. of Airport Planning, Div., of Airport Development, chief, res.; b. 1913; A.B., M.A., Pennsylvania State; Ph.D., Minnesota. Fields 3, 5, 12. Doc. dis. Investigation of a sample of income of Minnesota farm operators and of certain related items. Pub. Analyses of Minnesota incomes, 1938-39 (Univ. of Minnesota Press, 1944).
- HART, Donald John**, 906 Lawndale Ave., Waukesha, Wis. (1942) Carroll Col., asso. prof. of econ. and bus. admin., dept. head, teach.; b. 1917; B.A., 1938, Lake Forest; M.A., 1941, 1946-47, Wisconsin. Fields 1ab, 6, 4a.
- HART, John N.**, R.D. 2, Kent, Ohio. (1947)

HART, Lawrence, 2335 Valentine Ave., New York, N.Y. (1940)

HART, Maurice I., 19 Bonnett Ave., Larchmont, N.Y. (1939) Fordham Univ., School of Bus., asso. prof., dept. head, teach.; b. 1904; B.A., 1926, M.A., 1927, Boston; Ph.D., 1930, Fordham. Fields 8ab, 7, 9. Dir. Dir. of Schol.

HART, Orson Henry, Cherry St., Noroton Heights, Conn. (1937) Life Ins. Asso. of Amer., res. asso.; b. 1913; A.B., 1935, Trinity Col.; Ph.D., 1946, Yale. Fields 8c, 13a, 7. Doc. dis. Investment performance of eighteen largest domestic life insurance companies in bonds and stocks, 1929-44. Res. Investment performance of life insurance industry.

HART, (Mrs.) Shirley K., P.O. Box 128, Lorton, Va. (1947)

*HARTENSTEIN, Fred V., Washington and Jefferson Col., Washington, Pa. (1947) Washington and Jefferson Col., instr., teach.; b. 1920; B.A., 1946, Pittsburgh. Fields 16, 12, 1. Res. History of German trade unionism.

HARTKEIMER, Harry Pelle, 302 E. Parkway Dr., Columbia, Mo. (1942) Univ. of Missouri, prof., teach., res., bus.; b. 1904; B.S., 1927, Louisville; M.A., 1928, Harvard; Ph.D., 1930, Chicago. Fields 3, 11a, 1c. Doc. dis. Supply function for agricultural commodities (Univ. of Missouri Studies, 1932). Pub. Introduction to managerial business statistics (1943). Principles of punch-card machine operation (1942) (Crowell); Business statistics (Amer. Accts. Training Asso., Oklahoma City, 1947). Res. Multiple correlation and analysis of variance. Dir. Dir. of Schol., Who Knows—and What, W.W. in Central States.

HARTLAND, Penelope Claire, Brown Univ., Dept. of Econ., Providence, R.I. (1943) Brown Univ., asst. prof., teach., res.; A.B., 1940, Brown; A.M., 1942, Ph.D., 1946, Radcliffe. Fields 1a, 10, 15d. Doc. dis. Balance of interregional payments of New England, 1929-39. Res. Balance of payments of New England: a case study of interregional trade.

HARTLEY, Arthur E., Nannup State School, Nannup, Western Australia. (1946)

HARTOG, Robbert, 2187 Bloor St., W., Toronto 9, Ont., Canada. (1947) Kitchen Installations, Ltd., pres., bus.; b. 1919; Diplome, 1940, Ecole Libre des Sciences Politiques (Paris); M.A., 1942, Toronto. Fields 12a, 11a, 10. Pub. De l'Utilité du Contrôle des Changes en Temps de Guerre (Univ. of Toronto Press, 1941).

HARTOGSIS, Alwyn M., 166 McIrose Pl., Ridgewood, N.J. (1945)

HARTWELL, J. M., Mutual Life Ins. Co. of New York, 34 Nassau St., New York 5, N.Y. (1946)

*HARTWIG, Richard T., 6223 Kimbark Ave., Chicago 37, Ill. (1947)

HARTZ, John P., 4315 Underwood Rd., Baltimore, Md. (1947)

HARVEY, Edward F., 7319 Elbow Lane, Mt. Airy, Philadelphia 19, Pa. (1943)

HARVILL, Richard Anderson, 1326 E. Mabel St., Tucson, Ariz. (1933) Univ. of Arizona, Col. of Lib. Arts, dean; b. 1905; B.S., 1926, Mississippi State; M.A., 1927, Duke; Ph.D., 1932, Northwestern. Fields 1a, 10, 6. Doc. dis. Some economic and legal aspects of public utility merchandising (in part in Jour. of Land and Pub. Util. Econ., Feb., Aug., 1932). Pub. "The economy of the South," J.F.E., Feb., 1940. Dir. Dir. of Schol.

HASBROUCK, Henry Crane, 88 Douglas Rd., Glen Ridge, N.J. (1911) Edison Elec. Inst., acctg. dir., dept. head, bus.; b. 1880; A.B., 1904, Cornell Univ. Fields 13a, 11c, 8bc. Pub. "Cost v. value in depreciation accounting for public utilities," Jour. of Accountancy, Oct., 1923; "When should depreciation be deducted to find rate making value of public utilities?" Cornell Law Quar., June, 1925; "Problem of accounting for depreciation," Pub. Util. Fortnightly, Oct., 1941. Dir. W.W. in Pub. Util. Ind.

HASEK, Carl William, 502 E. Foster Ave., State College, Pa. (1922) Pennsylvania State Col., prof.

of econ., dept. head, teach., res.; b. 1889; B.A., 1911, Lehigh; M.A., 1914, Harvard; Ph.D., 1925, Columbia. Fields 1a, 6, 14. Doc. dis. Introduction of Adam Smith's doctrines into Germany (Columbia Univ. Studies, 1925). Pub. Principles of economics (Prentice-Hall, 1938); Economics, principles and application (with J. H. Dodd) (Southwestern Pub. Co., 1948); Industrial trends in Pennsylvania since 1914 (with G. L. Leffler and R. H. Waters) (Pennsylvania State Col. Studies, 1941). Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

HASSE, Adelaide Rosalie, 806 Islington St., Silver Spring, Md. (1914)

HASSELL, Edward Warren, 4112 N. Henderson Rd., Arlington, Va. (1943) Central Intelligence Agency, econ., govt. serv.; b. 1911; B.S., 1946, American. Fields 13b, 10, 16.

HASTINGS, Hudson Bridge, 6 Everit St., New Haven, Conn. (1920)

HASTINGS, (Mrs.) Mary Holt, 104 Fairbanks Ave., Wellesley Hills 82, Mass. (1947)

HASTINGS, Paul Guiler, 1390 Worton Blvd., Mayfield Heights, Ohio. (1948) Earlham Col., asst. prof., teach.; b. 1914; A.B., 1937, Oberlin; M.B.A., 1939, Pennsylvania. Fields 11a, 6, 10.

*HATHAWAY, Frank Randel, 142 Green St., Hudson, N.Y. (1888) B. 1865; A.M., 1889, Columbia.

HATLEY, George Ashton, Apartado 809, Caracas, Venezuela, S. Amer. (1942)

HAUGE, Gabriel Sylfest, 117 E. 71st St., New York 21, N.Y. (1946) Banking Dept., State of New York, dir. of res. and statis., res., govt. serv.; b. 1914; A.B., 1935, Concordia Col.; A.M., 1938, Ph.D., 1947, Harvard. Fields 7, 3a, 9. Doc. dis. Banking aspects of Treasury borrowing during World War II.

HAUHART, William F., 9463 Brenda Ave., St. Louis 23, Mo. (1920)

HAUN, George Cleveland, 6410 Regent St., Oakland 9, Calif. (1944)

HAUSER, Francis L., 15 Washington Pl., New York 3, N.Y. (1947)

HAUSER, Philip Morris, Univ. of Chicago, Dept. of Soc., 1126 E. 59th St., Chicago 37, Ill. (1945) Univ. of Chicago, prof. of soc., res., teach.; b. 1909; Ph.B., 1929, M.A., 1933, Ph.D., 1938, Chicago. Fields 17a, 3a, 15dc. Doc. dis. Differential fertility, mortality and net reproduction in Chicago, 1930 (Univ. of Chicago Press, 1938). Pub. Workers on relief in U.S. (Govt. Prtg. Office, Vol. I, 1938, Vol. II, 1939); Government Statistics for business use (with W. L. Leonard) (Wiley, 1946); "Impact of war on population and vital phenomena," Amer. Jour. of Soc., Nov., 1942. Res. Trends in differential fertility and mortality in Chicago; population growth and decentralization; trends in labor force growth and composition. Dir. W.W. in Amer., Dir. of Schol.

HAVENS, Ralph Murray, Box 1609, University, Ala. (1938) Univ. of Alabama, asso. prof., teach., res.; b. 1904; A.B., 1927, Baker; M.B.A., 1933, Kansas; Ph.D., 1941, Duke. Fields 6, 2a, 1a. Doc. dis. Laissez-faire in U.S. during nineteenth century depressions. Pub. "Reactions of federal government to 1837-43 depression," Jan., 1942, "Effect of denazification upon property rights in Germany," Oct., 1946, Southern Econ. Jour.; "Laissez-faire theory in presidential messages of nineteenth century," Jour. of Econ. Hist., Dec., 1941. Res. Control over state banks exercised by independent treasury.

*HAVER, Cecil Berdeen, Iowa State Col., Dept. of Econ., Ames, Iowa. (1947) Iowa State Col., student; b. 1923; B.S., 1946, Saskatchewan; M.S., 1947, California; 1947-48, Iowa State Col. Fields 15b, 3a, 1a. Res. An economic analysis of scale of operation in agriculture (doc. dis.). Dir. W.W. of Agric. Inst. of Canada.

HAVERKAMP, Leonard John, Wilson and Co., Inc., 4100 S. Ashland Ave., Chicago 9, Ill. (1946) Wilson and Co., econ., bus., res.; b. 1919; B.S.A., 1940, M.S.A., 1944, Purdue; 1945, Chicago; Ph.D., 1947, Purdue. Fields 15b, 11ab, 3a. Doc. dis.

Simplifying tomato canning factory operations (Agric. Exp. Sta., Purdue Univ., Apr., 1948). Pub. Transportation of farm products in Indiana (Purdue Agric. Exp. Sta., 1944).

HAVLIK, Hubert Frank, 3850 39th St., N.W., Washington 16, D.C. (1941) U.S. Dept. of State, Div. of Invest. and Econ. Develop., chief, govt. serv.; b. 1904; B.S., 1926, M.B.A., 1927, Northwestern; Ph.D., 1938, Columbia. Fields 10, 13a, 12b. Doc. dis. Service charges in gas and electric rates (Columbia Univ. Press, 1938). Pub. Main currents in modern economic life (co-author) (Harcourt, Brace, 1941); Electric power and government policy (co-author) (Twentieth Century Fund, 1947). Dir. W.W. in Amer., Int. W.W.

HAWK, Emory Quinter, Birmingham-Southern College, Birmingham 4, Ala. (1941) Birmingham-Southern Col., Dept. of Econ., dept. head, prof.; b. 1894; A.B., 1912, Bridgewater; M.A., 1926, Ph.D., 1928, Virginia; 1919, Univ. of Toulouse, France. Fields 1a, 2a, 9. Doc. dis. History of taxation in Virginia. Pub. Economic history of the South (Prentice-Hall, 1934); Taxation in Alabama (Birmingham-Southern Col., 1936); "Economies of chain stores," Southern Econ. Jour., 1936. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

HAWKES, George Reade, 3217 Vine St., Lincoln 3, Neb. (1946) Univ. of Nebraska, instr., teach.; b. 1913; B.S., 1939, M.A., 1942, Nebraska. Fields 11c, 8a, 16.

HAWKINS, Everett Day, Mt. Holyoke Col., South Hadley, Mass. (1930)

HAWKINSON, James R., North Shore Hotel, Evanston, Ill. (1927) Northwestern Univ., School of Com., Dept. of Mktg., dept. head, prof., teach., bus.; b. 1895; B.A., 1917, Carleton; M.B.A., 1923, Northwestern. Field 11ab. Pub. Marketing section, American peoples encyclopaedia (Spencer Press, 1947). Dir. W.W. in Midwest, in Chicago and Vicinity.

HAWLEY, Langston T., P.O. Box 1384, University, Ala. (1945) Univ. of Alabama, School of Com. and Bus. Admin., asso. prof. of labor econ., teach., res., govt. serv.; b. 1909; B.S., 1932, M.S., 1933, Alabama; Ph.D., 1946, North Carolina. Fields 16, 12a, 1a. Doc. dis. Wage standardization: an analysis. Pub. Alabama's balance of rail and water traffic (Bur. of Bus. Res., Univ. of Alabama, 1939). Res. Administered wages.

HAWORTH, Clifford L., 1050 Elm St., Winnetka, Ill. (1929) Butler Bros., mgr. hq. and retail acctg., bus.; b. 1905; A.B., 1926, Whittier; M.B.A., 1928, Harvard. Fields 11c, 6, 2.

HAWTREY, Ralph G., 29 Argyle Rd., London, W.8, England. (1948)

HAYDEN, Byron R., 1301 S. Cleveland St., Apt. 353, Arlington, Va. (1942)

HAYEK, Friedrich August, London School of Econ., Houghton St., Aldwych, London, W.C.2, England. (1948) London School of Econ., prof.; *Economica*, acting editor; teach., res., edit.; b. 1899; Dr. jur., 1921, Dr. rer. pol., 1923, Univ. of Vienna; D. Sc., 1945, Univ. of London. Fields lab, 6, 4ab. Doc. dis. Theory of imputation. Pub. Pure theory of capital (Macmillan, London, 1941); Road to serfdom (Routledge, London, and Univ. of Chicago Press, 1944); Individualism and economic order (Univ. of Chicago Press, 1948). Dir. W.W. in Amer., Int. W.W., W.W. (English).

HAYES, Harry Gordon, Ohio State Univ., Columbus 10, Ohio. (1915) Ohio State Univ., prof., teach., res.; b. 1883; A.B., 1910, M.A., 1912, Ph.D., 1914, Michigan; L.H.D. (Hon.), 1943, Kenyon. Fields 4ab, 6, 1a. Doc. dis. The backward shifting of land taxes. Pub. Our economic system (Holt, 1928); Spending, saving and employment (Knopf, 1945); "Hoarding and competitive equilibrium," A.E.R., Mar., 1938. Res. Development of economic institutions; flow of income and business cycle. Dir. W.W. in Amer.

HAYES, James Louis, St. Bonaventure Col., St. Bonaventure, N.Y. (1941) St. Bonaventure Col., prof.; American Inst. of Banking, instr.; American Col. of Life Underwriters, instr.; teach.,

dept. head, bus.; b. 1914; A.B., 1936, St. Bernard's Col.; M.A., 1938, St. Bonaventure; 1938-39, Columbia. Fields lab, 11ab, 8.

HAYES, Marion, 1712 16th St., N.W., Washington 9, D.C. (1939)

HAYES, Samuel Perkins, Jr., 113 Locust Ave., Bethesda 14, Md. (1938) Dept. of State, spec. asst. to asst. secy for econ. affairs; Dun and Bradstreet Inc., Bus. Inform. Div., asso. dir. (on leave); govt. serv., bus., res.; b. 1910; A.B., 1931, Amherst; Ph.D., 1934, Yale; 1937-38, Chicago. Fields 3c, 10, 6. Doc. dis. Political attitudes and voting behavior (Jour. of Soc. Psych., 1936-39). Pub. "The business cycle: Psychological approaches," Polit. Sci. Quar., Mar., 1948; "Potash prices and competition," Q.J.E., Nov., 1942; Psychology of conciliation and arbitration procedures," in Industrial conflict (Cordon Press, 1939). Res. Possibilities of utilizing psychological techniques and concepts in investigation of economic problems. Dir. W.W. in Com. and Ind., in N.Y.

HAYMAN, Henry Houston, R.D.1, Spring City, Pa. (1947) Atlantic Refining Co., Sec. of Transp. Econ., chief, asso. econ., bus., res., edit.; b. 1908; A.B., 1932, A.M., 1933, 1933-38, Pennsylvania. Fields 6, 13b, 7.

HAYNES, Lawrence Wilber, 321 N. Brooks St., Madison 5, Wis. (1942) Univ. of Wisconsin, student; b. 1914; B.S. in Agric., 1936, Purdue; 1940-41, 1947-48, Wisconsin. Fields 15b, 1, 3c.

HAYNES, Williams, 161-63 Water St., Stonington, Conn. (1924) Haynes and George Co., Inc., pres., res., edit.; b. 1886; 1908-11, Johns Hopkins. Fields 14a, 11ab, 8b. Pub. American chemical industry: a history (1945-48); Chemical economics (1933) (D. Van Nostrand); This chemical age (Knopf, 1942). Dir. W.W. in Amer., in Com. and Ind., Int. W.W., Chemical W.W.

HAYWARD, June Amanda, 3050 N. 77th St., Milwaukee 13, Wis. (1947) Marquette Univ., grad. asst., teach., res.; b. 1924; B.S., 1947, Marquette. Fields 1a, 11ac, 3a. Res. Commodity reserve currency (master's thesis).

HAZARD, Dorothy Crook (Mrs. C. S.), 153 E. 37th St., New York 16, N.Y. (1947) U.S. State Dept., Int. Broadcasting Div., econ. editor, govt. serv.; b. 1911; B.A., 1933, Barnard; M.A., 1938, Columbia. Fields 10, 4a, 6.

HAZLITT, Henry, 37 Washington Sq., W., New York, N.Y. (1946)

HEALEY, James Henry, Ohio State Univ., Dept. of Bus. Org., Columbus 10, Ohio. (1948) Ohio State Univ., asst. prof.; b. 1920; B.S. in B.A., 1942, M.S. in B.A., 1944, Connecticut. Fields 11ac, 12a, 8a.

HEALEY, James John, 18 Exeter St., Boston, Mass. (1938) Harvard Univ., asst. prof., exec. dir.; Wallen and Healey, partner; teach., govt. serv., res.; b. 1916; B.A., M.A., 1936, Wisconsin; 1937-40, Harvard. Fields 16, 17, 14. Res. Analysis of seniority principle in lay-offs and promotions. Dir. W.W. in New England.

HEALY, Kent Tenney, 245 Lawrence St., New Haven 11, Conn. (1932) Yale Univ., prof., dept. head, teach., res.; b. 1902; A.B., 1922, Harvard; B.S. in E.E., 1923, M.I.T.; M.A., 1945, Yale. Fields 13b, 6, 12a. Pub. Steam railroad electrification (McGraw-Hill, 1929); Economics of transportation in America (Ronald Press, 1940). Dir. W.W. in Amer.

HEANEY, Norman Stewart, c/o General Motors Overseas Operations, 1775 Broadway, New York 19, N.Y. (1942) General Motors, Ltd., (London) Planning and Development Staff, mgr., bus.; b. 1913; B.S., 1934, Ph.D., 1942, Johns Hopkins. Field 2. Doc. dis. Public trusteeship (Johns Hopkins Press, 1942).

HEATH, Milton Sydney, 208 Glenburnie Rd., Chapel Hill, N.C. (1940) Univ. of North Carolina, prof. of econ., teach.; A.B., 1917, Kansas; A.M., 1924, Ph.D., 1938, Harvard. Fields lab, 2a, 13b. Doc. dis. Public co-operation in railroad construction in Southern U.S. to 1861. Pub. "Laissez faire in Georgia, 1732-1860," Jour. of Econ. Hist.,

Dec., 1943; "Uniform class rate decision and its implication for Southern economic development," Southern Econ. Jour., Jan., 1946; "Interterritorial freight rates: the rate structure," Law and Contemp. Prob., 1947. Res. Role of state in economic development: Georgia, 1732-1860. Dir. Dir. of Schol.

HEATH, Ralph Cyrus, Miami Univ., Oxford, Ohio. (1948) Miami Univ., asst. prof., teach.; b. 1909; A.B., 1931, Princeton; M.B.A., 1948, Indiana. Fields 3a, 11b, 1a.

HEATHER, George Gail, 1242 W. Carolina St., Tallahassee, Fla. (1947)

HEATHERINGTON, Donald Fuller, Apt. B, 150-30 Village Rd., Jamaica, N.Y. (1938) Nat. For. Trade Coun., European Div., dir.; Econ. Coop. Admin., consult.; b. 1915; B.S., 1937, Washington and Lee; M.A., 1939, Yale. Fields 10, 7, 2. Pub. The sterling area (Int. Reference Serv., Nov., 1945); Britain's economic crisis (Nat. Ind. Conf. Rl., 1947); "British postwar balance of international payments," For. Cum. Weekly, Aug., 1945. Res. British economy; economic foreign policy.

HEATON, Earl, 1469 E. Decatur St., Decatur, Ill. (1947)

HEATON, Herbert, Univ. of Minnesota, Dept. of Hist., Minneapolis 14, Minn. (1926) Univ. of Minnesota, prof. of econ. hist., teach.; b. 1890; B.A., 1911, M.A., 1912, D.Litt., 1921, Leeds; 1911-12, London School of Econ.; M.Comm., 1914, Birmingham Univ. Fields 2a, 4a, 17a. Doc. dis. History of Yorkshire woolen and worsted industries (Oxford Univ. Press, 1921). Pub. Economic history of Europe (Harper, 1936, 1948); British way to recovery (Univ. of Minnesota Press, 1934); Modern Economic history with special reference to Australia (Workers Educa. Asso., 1925). Res. Memoir of Edwin F. Gay; studies in Anglo-American trade, 1770-1850. Dir. W.W. in Amer.

HEATWOLE, Raymond William, Furman Univ., Greenville, S.C. (1948)

HECK, Harold J., Tulane Univ., Col. of Com. and Bus. Admin., New Orleans 15, La. (1944)

HECK, Victor Crawford, 300 24th Ave., S., Nashville 5, Tenn. (1938) Vanderbilt Univ., asst. prof., teach.; b. 1915; B.S., 1936, M.A., 1937, California; 1937-40, Cornell Univ.; 1940-41, Brookings. Fields 10, 7, lab. Res. Costa Rica's international accounts.

HECKSCHER, Eli Filip, Baldersgatan 10B, Stockholm 8, Sweden. (1938) Stockholm Univ., prof. emeritus, teach., res.; b. 1879; D. Phil., 1907 Uppsala Univ.; D.Sc. (Hon.), 1929, Copenhagen Univ. Fields 2a, 1a, 13b. Doc. dis. Influence of railroads on economic development of Sweden (in Swedish). Pub. Mercantilism (George Allen & Unwin, Ltd., 1943); Economic history of Sweden (in Swedish) (Albert Bonnier, Stockholm, 1935, 1936); The continental system, an economic interpretation (Carnegie Endowment for Int. Peace; Clarendon Press, Oxford, 1922). Res. Economic history of Sweden. Dir. Int. W.W., Swedish Who's Who.

HEDGES, Joseph Edward, Indiana Univ., School of Bus., Bloomington, Ind. (1932) Indiana Univ., School of Bus., prof. of ins.; b. 1904; A.B., 1928, Baker; M.B.A., 1932, Kansas; Ph.D., 1936, Johns Hopkins. Fields 8c, 17bc, 16. Doc. dis. Commercial banking and stock market before 1863 (Johns Hopkins Press, 1933). Pub. Practical fire and casualty insurance (Nat. Underwriter Co., 1943); Compensation of life insurance agents (with L. P. Henslee) (1942), Economic problems of war (1942) (School of Bus., Indiana Univ.). Dir. W.W. in Amer. Educa.

HEDGES, Marion Hawthorne, Int. Brotherhood Electrical Workers, 1200 15th St., N.W., Washington, D.C. (1942)

HEEBNER, R. Gilbert, Scott Paper Co., Chester, Pa. (1941) Scott Paper Co., tax mgr., dept. head., bus.; b. 1910; B.S. in Ed., 1933, M.S. in Ed., 1935, Temple. Fields 1, 2, 5.

HEER, Clarence, Chapel Hill, N.C. (1931) Univ. of North Carolina, prof., teach., res., govt. serv.; b. 1893; B.A., 1914, Rochester; Ph.D., 1926, Columbia. Fields 9, 13a. Doc. dis. Postwar expansion

of state expenditures (Inst. of Pub. Admin., 1926). Pub. "Trends in taxation," in Recent social trends in the U.S. (McGraw-Hill, 1933); Income and wages in the South (Univ. of North Carolina Press, 1930); Federal aid and tax problem (Govt. Prtg. Office, 1939). Res. What state and local governments can contribute toward business stability. Dir. W.W. in Amer.

HEFLEBOWER, Richard Brooks, 3254 Arcadia Pl., N.W., Washington 15, D.C. (1934) Brookings Inst., res.; b. 1903; 1921-23, Fresno State Col.; A.B., 1925, Ph.D., 1929, California. Fields 12a, 6, 14a. Doc. dis. Price forming factors for some of staple agricultural articles produced in Idaho. Pub. "Effect of dynamic forces on elasticity of revenue curves," Q.J.E., Aug., 1941; "Effects of war on structure of commodity and labor markets," A.E.R., May, 1946; Economics with applications to agriculture (with E. F. Dummer) (McGraw-Hill, 1940). Res. Price-making in manufacturing industries. Dir. W.W. in Amer.

HEIBY, Ernest Paul, 1405 Audubon St., New Orleans 18, La. (1941) 10th U.S. Civil Service Region, inspector, govt. serv.; b. 1911; B.S., 1934, M.S., 1938, Ohio State; 1938-39, Chicago. Fields 15, 1, 10.

HEILBRUN, James, 511 E. 30th St., New York 10, N.Y. (1946) Prentice-Hall, asst. editor and asst. econ., res., edit.; b. 1924; S.B., 1945, M.A., 1947, Harvard. Fields 6, 12a, 4a.

HEILPERIN, Michael Angelo, 630 Fifth Ave., Room 1260, New York 20, N.Y. (1934)

HEIM, Peggy, 347 Arch St., Sunbury, Pa. (1945) Univ. of Texas, instr., teach.; b. 1924; A.B., 1945, Duke; M.A., 1946, Ohio State. Fields 16, 1ab, 4ab.

HEINE, Irwin Millard, 2480 16th St., N.W., Washington 9, D.C. (1946) U.S. Maritime Com., Vessel Records Br., chief, govt. serv.; b. 1908; B.S. in Econ., 1930, M.B.A., 1932, Pennsylvania. Fields 13b, 3a, 10. Pub. Economic survey of coastwise and intercoastal shipping (co-author) (Govt. Prtg. Office, 1939); "Influence of geographic factors in development of mail order business," Jour. of Mktg., Apr., 1936. Res. Tramp shipping under the U.S. flag; wartime shipbuilding in U.S.

HEINEMAN, Ben W., 135 S. La Salle St., Chicago, Ill. (1948)

HEINEMANN, Hans, Kidder, Peabody & Co., 17 Wall St., New York, N.Y. (1941)

HELBING, Albert Theodore, Univ. of Redlands, Redlands, Calif. (1930)

HELFANT, Henry, Casilla 9582, Santiago de Chile, S. Amer. (1946)

HELLBERG, Axel Teodor, Baltzarsgatan 29, Malmo, Sweden. (1947)

HELLBORN, Ludwig S., 15 Cambridge St., Rockville Centre, L.I., N.Y. (1948) General Motors Corp., econ., bus., res., edit.; b. 1904; B.A., 1927, Univ. of Berlin; 1938-39, American. Fields 12, 5, 9. Pub. Statistics of American listed corporations (SEC, Vol. I, 1940, Vol. II, 1941).

HELLEBRANDT, Edwin Theodore, P.O. Box 228, 153 Morris Ave., Athens, Ohio. (1947) Ohio Univ., prof. of econ. and mgmt., dept. head, teach., res.; b. 1904; B.S., 1926, Chicago; M.S., 1927 Ph.D., 1933, Wisconsin. Fields 11a, 13, 1ab. Doc. dis. Development of public utility regulation in Ohio (Jour. of Land and Pub. Util. Econ., Nov., 1933, and Feb., 1934). Pub. "Public utility holding company regulation in Ohio," Harvard Bus. Rev., Summer, 1937.

HELLER, Walter W., Fin. Div., OMGUS, APO 742, c/o Postmaster, New York, N.Y. (1941)

HELLMAN, Richard, 4115 W St., N.W., Washington 7, D.C. (1941) Fed. Power Com., econ., govt. serv.; b. 1913; A.B., 1934, 1937-38, Columbia. Fields 13a, 12b, 14. Pub. Family income in nine cities of east central region, 1935-36 (Bur. of Labor Statis., Bul. 644, 1939); Farmers try group medicine (Harper, 1940); "Japan's two-bit power outfit," Pub. Util. Fortnightly, May, 1946. Res. Effect of government competition on electric utility rates (doc. dis.).

- HELLMUTH, William Frederick, Jr.**, Oberlin Col., Dept. of Econ., Oberlin, Ohio. (1946) Oberlin Col., asst. prof., teach., res.; b. 1920; A.R., 1940, Ph.D., 1948, Yale. Fields 7, 9, 8a. Doc. dis. British debt management since 1938.
- HELM, Florence**, 1725 New Hampshire Ave., N.W., Washington 9, D.C. (1930) Fed. Deposit Ins. Corp., Div. of Res. and Statis., acting chief, govt. serv., res.; b. 1886; A.B., B.S., 1909, M.A., 1930, Missouri; Ph.D., 1934, Yale. Fields 7, 8b, 1a. Doc. dis. Banking developments in Missouri, 1920-36 (Missouri Bankers Asso., 1939). Pub. America weighs her gold (Yale Univ. Press, 1931). Dir. of Schol.
- HELMREICH, Theodore Christian**, Purdue Univ., Econ. Dept., West Lafayette, Ind. (1946) Purdue Univ., asst. prof., teach.; b. 1910; M.A., 1932, Ph.D., 1936, Illinois; 1933-34, Univ. of Frankfurt, Germany. Fields 16, 2a, 10. Doc. dis. Unemployment program of German government, 1930-34.
- HELMS, Lloyd Alvin**, Bowling Green State Univ., Bowling Green, Ohio. (1927) Bowling Green State Univ., Dept. of Econ., dept. head, prof., teach., res.; b. 1902; A.B., 1925, DePauw; A.M., 1926, Ph.D., 1931, Illinois. Fields 7, 1ab, 16. Doc. dis. Contributions of Lord Overstone to theory of currency and banking (Univ. of Illinois Press, 1939). Res. Money markets. Dir. Dir. of Schol.
- HENCH, William Martin**, 412 W. Fairmount Ave., State College, Pa. (1947) Pennsylvania State Col., asso. prof., teach., res.; b. 1899; A.B., 1923, A.M., 1926, Pennsylvania State Col.; Ph.D., 1937, Pennsylvania. Fields 1a, 10, 11b. Doc. dis. Changes in size of manufacturing firms in Philadelphia, 1915-30. Pub. Miscellaneous revenue—City of Philadelphia (Inst. for Local and State Govt., 1938). Res. Latin-American trade.
- *HENDERSON, David Allen**, 1137 Pleasant, Boulder, Colo. (1947) Univ. of Colorado, instr., teach.; b. 1923; B.S., 1946, Colorado. Fields 10, 4a, 6. Res. Reciprocal trade with Latin America (master's thesis).
- HENDERSON, John Patrick**, Univ. of Buffalo, Dept. of Econ., Buffalo, N.Y. (1946) Univ. of Buffalo, Dept. of Econ., instr., teach.; b. 1919; A.B., 1944, M.A., 1947, California. Fields 2, 1ab, 16.
- HENDERSON, Leon**, 2119 Bancroft Pl., Washington, D.C. (1935)
- HENDERSON, Lucien G.**, Ronald Press Co., 15 E. 26th St., New York, N.Y. (1919)
- HENDRICKS, H. G.**, 216 Hickory St., San Antonio, Tex. (1946)
- HENDRICKS, Walter Paul**, 180 Maujer St., Brooklyn 6, N.Y. (1947) Calif. Tex. Oil Co., Dept. of Econ., supv.; Univ. of Mississippi, School of Com. and Bus. Admin., Dept. of Econ., instr.; teach., bus., res.; B.S.S., 1943, City of New York; M.A., 1948, Columbia. Fields 10, 1a, 2b. Res. Russian postwar foreign trade policy.
- HENDRICKSON, Harry G.**, Michigan State Col., Basic Col., Soc. Sci. Dept., East Lansing, Mich. (1947)
- *HENDRIX, William Elbert**, Ga. Agric. Exp. Sta., Experiment, Ga. (1948) Ga. Agric. Exp. Sta., asso. agric. econ., res.; b. 1914; B.S.A., 1935, M.S., 1936, Tennessee; 1946-48, Wisconsin. Fields 15ab, 1a. Pub. Agriculture adjustment opportunities in Greene County, Georgia (1942). Some aspects of the farm tenure situation in Newton County, Georgia (1945) (Ga. Agric. Exper. Sta.) Res. Capital accumulation and productivity in agriculture in the Piedmont in Georgia (doc. dis.)
- HENEMAN, Herbert Gerhard, Jr.**, Univ. of Minnesota, Ind. Rela. Center, Minneapolis 14, Minn. (1941) Univ. of Minnesota, Ind. Rela. Center, res. asso. and asst. dir., res., edit., teach.; b. 1916; B.B.A., 1938, M.A., 1943, Ph.D., 1948, Minnesota. Fields 16, 17abc. Doc. dis. Measurement of short-run family participation in labor force. Pub. Local labor market research (joint author) (1948), Industrial relations five foot shelf (1948) (Univ. of Minnesota Press); Study guide for course in personnel management and industrial relations (Prentice-Hall, 1947). Res. Measurement of labor mobilities; aggregate versus local approaches to full employment. Dir. W.W. in Ind.
- HENGREN, Raymond E.**, 6911 Pyle Rd., Bethesda, Md. (1935)
- HENIG, Harry**, Illinois Inst. of Tech., Chicago, 16, Ill. (1934) Illinois Inst. of Tech., prof. of econ., teach., res.; b. 1903; B.S., 1926, New York; M.A., 1927, Ph.D., 1937, Columbia. Fields 16, 1a, 7. Doc. dis. Brotherhood of Railway Clerks (Columbia Univ. Press, 1937). Pub. Introduction to western civilisation (co-author) (Odyssey Press, 1942); "Wage control in wartime and transition," A.E.R., June, 1945. Res. Theory of wages.
- HENLE, Peter**, 3201 Ravensworth Pl., Alexandria, Va. (1946) Amer. Fed. of Labor, econ., res., edit.; b. 1919; B.A., 1940, Swarthmore; M.A., 1947, American. Fields 16, 4, 12.
- HENN, Margot Elfriede**, 472 E. 146th St., New York 55, N.Y. (1946) Amer. Tel. and Tel. Co., res. asst., res.; b. 1924; A.B., 1946, Brooklyn; 1946-48, Fordham. Fields 8b, 6, 13. Pub. "Security prices and inflation" (with I. Wright), Com. and Fin. Chron., Aug. 28, 1947.
- HENRY, Frank Fabian**, Northwestern Univ., Lunt 122, Evanston, Ill. (1948) Northwestern Univ., asst. prof. of mgmt., teach., res., bus.; b. 1905; B.S.E., 1939, M.B.A., 1941, Michigan. Fields 11a, 16, 14ac. Res. Organization and managerial control of hospitals (doc. dis.).
- HENRY, John M.**, Coe Col., Cedar Rapids, Iowa. (1923)
- HENRY, Robert James**, 3707 Three Mile Dr., Detroit 24, Mich. (1929) White, Bower and Prevot, partner, bus.; b. 1908; B.A., 1929, Col. of City of Detroit; M.A., 1930, Michigan. Fields 11c, 8b, 6.
- HERBERT, Carl Preston**, 332 Cedar St., St. Paul 1, Minn. (1943) St. Paul Bur. of Munic. Res., dir., res.; b. 1893; B.A., 1916, Miami Univ. Field 9. Pub. Post-war taxes—Twin Cities Plan (co-author) (1944). Dir. W.W. in Amer.
- HERBERT, Charles Henry**, Dominion Bur. of Statis., No. 7 Temporary Bldg., Ottawa, Ont., Canada. (1937)
- HERBST, Alma**, Ohio State Univ., Columbus, Ohio. (1924)
- *HERFINDAHL, Orris C.**, 308 S.E. Indiana Ave., Mason City, Iowa. (1947) Univ. of Illinois, instr., teach., res.; b. 1918; B.B. Adm., 1939, 1939-40, Minnesota; 1946-48, Columbia. Fields 1a, 5, 12a. Res. Concentration in industry.
- HERMAN, Edward S.**, 35 Kent Rd., Upper Darby, Pa. (1947) Bates Col., instr., teach., res.; b. 1925; A.B., 1945, A.M., 1948, Pennsylvania. Fields 4ab, 12a, 2a.
- HERMENS, F. A.**, 1721 Stocker Pl., South Bend, Ind. (1938)
- HERNRIED, Rudolph F. C.**, 851 Fulton St., San Francisco 17, Calif. (1947)
- HERON, John R.**, Royal Bank of Canada, Head Office, Montreal, Que., Canada. (1946)
- HERRMANN, Helen**, R.D. 1, Freshold, N.J. (1928)
- HERRMANN, Omer Wesley**, *4313 Elm St., Chevy Chase, Md. (1947) U.S. Dept. of Agric., Agric. Res. Admin., asst. res. admin., res., govt. serv., dept. head, teach.; b. 1897; B.S., 1922, Nebraska; Ph.D., 1928, Wisconsin. Fields 15b, 11ab. Doc. dis. Development of co-operative cotton ginning in U.S. Pub. South Brazil—new land of cotton (May, 1940). Development of cotton ginning (Apr., 1939). Early developments in co-operative cotton marketing (Mar., 1936) (Farm Credit Admin.).
- HERRMANN, Roy**, 66 E. 93rd St., New York 28, N.Y. (1948) Econ. and mgmt. consult., bus., res., edit., teach.; b. 1901; Dr. rer. pol., 1926, Berlin and Rostock, Germany. Fields 11ab, 14ac, 12. Doc. dis. Kritische Betrachtungen zu Albert Hahn's "Volkswirtschaftliche Theorie des Bankkredits" (Carl Hinostroff, Rostock, Germany, 1928).
- HERROLD, Lloyd Dallas**, 2210 Hartzell St., Evanston, Ill. (1938)

- HERSEY, Arthur B., 2313 N. Evergreen St., Arlington, Va. (1943)
- HERSEY, M. Leonard, 44 W. 10th St., New York 11, N.Y. (1939) Socony-Vacuum Oil Co., div. mgr., res., bus.; b. 1899; B.S., 1922, Trinity Col. Fields 6, 3c, 14.
- HERSON, Richard J. L., 33 W. 42nd St., New York 18, N.Y. (1944) Hertz and Herson, partner, bus.; b. 1918; B.S., 1938, City of New York; M.S., 1939, 1940-41, Columbia. Fields 11ac, 14a, 8ac.
- HERZ, Henry, Montclair, N.J. (1941)
- HERZEL, William George, Fed. of Tax Administrators, 1313 E. 60th St., Chicago 37, Ill. (1944)
- HESKIN, Oscar Edward, Univ. Sta., Gainesville, Fla. (1939)
- *HESS, Arleigh Porter, Jr., 417 Cattell Ave., West Collingswood, N.J. (1948) Univ. of Pennsylvania, instr., teach., res.; b. 1918; B.S. in Econ., 1939, M.S., 1941, Pennsylvania. Fields 1a, 3a, 15c. Res. Urban land economics (doc. dis.).
- SHESS, Herbert William, Univ. of Pennsylvania, Wharton School, Philadelphia, Pa. (1940)
- HESS, Ralph Henry, Cobleskill, N.Y. (1944)
- *HESSBURG, Frances Catharine, 6233 Washington Circle, Wauwatosa, Wis. (1947)
- HESSION, Charles Henry, 1852 53rd St., Brooklyn 4, N.Y. (1947) Brooklyn Col., Econ. Dept., instr., teach., res.; b. 1911; B.A., 1932, City of New York; M.A., 1933, Ph.D., 1948, Columbia. Fields 12a, 2a, 1a. Doc. dis. Competition in the metal food container industry, 1916-46 (published privately, 1948). Pub. Readings in economic institutions (co-author) (Brooklyn Col. Press, 1941); Problems in economics (co-author) (Holt, 1934); Business problems, the automobile and cotton industries (with E. H. Spengler) (McGraw-Hill, 1939). Res. Liquor prices under the mandatory fair trade rule in New York City.
- HETZEL, Alice M., 1716 Lanier Pl., N.W., Washington 9, D.C. (1947) U.S. Pub. Health Serv., statis., govt. serv.; b. 1922; B.S., 1942, Oklahoma A. and M.; 1945-46, Georgetown. Fields 1a, 3a, 11.
- HEUSER, Henry Karl-Maria, 1747 F St., N.W., Washington, D.C. (1942) Int. Monetary Fund, econ., res., govt. serv.; b. 1911; B.A., 1932, McGill; M.A., 1933, Ecole des Sciences Economiques et Politiques (Paris); Ph.D., 1938, Univ. of London. Fields 10, 1a, 7. Doc. dis. Economics of exchange control. Pub. Control of international trade (Rutledge, London, 1938; Blakiston, Philadelphia, 1939).
- HEUSNER, William W., Pabst Sales Co., 221 N. LaSalle St., Chicago, Ill. (1945) Pabst Sales Co., dir. market res., res., bus.; b. 1900; A.B., 1922, Kansas Univ.; M.B.A., 1924, Harvard. Fields 11, 5, 6. Pub. Market research in industry (Nat. Asso. of Mfrs., 1945).
- *HEUSON, William G., 3908 S. Broadway, St. Louis, Mo. (1948)
- *HEUSTON, Milton Craig, 129 S. Monterey St., Alhambra, Calif. (1946) Amer. Potash and Chemical Corp., sales statis., bus.; b. 1924; B.A., 1947, Pomona; 1947-48, Southern California. Fields 3a, 6, 1. Pub. Case study in sales analysis of a chemical manufacturer (1948). Res. Correlation analysis leading to a sales forecast; methods of measuring sales potential.
- HEWES, Amy, Mt. Holyoke Col., South Hadley, Mass. (1906)
- HEWETT, William Wallace, Univ. of Cincinnati, Dept. of Econ., Cincinnati, Ohio. (1921) Univ. of Cincinnati, Dept. of Econ., head, prof., teach., res.; b. 1897; A.B., 1920, Swarthmore; A.M., 1922, Ph.D., 1924, Pennsylvania. Fields lab, 9, 12b. Doc. dis. Definition of income and its application in federal taxation (Westbrook Pub. Co., Philadelphia, 1925). Pub. Applied economics (with R. T. Bye) (Appleton-Century-Crofts, 1928, 1947); "Irving Fisher on income in light of experience," A.E.R., June, 1929; "Taxation of increases in personal income," Bul. of Nat. Tax Asso., Oct., 1947. Res. Re-examination of concept of income and its relation to taxation.
- HEXNER, Ervin Paul, 2732 Woodley Pl., N.W., Washington 8, D.C. (1940) Int. Monetary Fund, counsellor, dept. head; b. 1893; Dr. pol. sc., 1918, State Univ. Kolorsava (Hungary); Dr. juris., 1919, State Univ. Bratislava (Czech.). Fields 10, 7, 12a. Pub. International cartels (Univ. of North Carolina Press, 1946); Sir Isaac Pitman, London, (1947); International steel cartel (1943); Studies in legal terminology (1941). (Univ. of North Carolina Press). Dir. W. W. in Amer., Int. W.W.
- HEYMANN, Hans, Sampson Col., Sampson 4, New York. (1947) Sampson Col., prof. of econ., teach., res.; b. 1888; M.A., 1914, Berlin Univ.; Ph.D., 1918, Albertus Univ. Fields 10, 2a, 8c. Doc. dis. Die Sociale Sachwerterhaltung auf dem Wege der Versicherung (Julius Springer Verlag, 1920). Pub. Property-life insurance (1939), Plan for permanent peace (1941, 1942) (Harper); We can do business with Russia (Ziff-Davis, Chicago, 1945). Res. Russian business reconsidered; world economic regionalism. Dir. W.W. in Amer.
- HEYWARD, Eric John Richard, 4510 Empire State Bldg., New York 1, N.Y. (1948) Australian Mission to U.N., 1st secy., govt. serv.; b. 1914; B.A., 1934, Tasmania; M.S., 1939, London School of Econ., Fields 10, 1a, 6.
- HIATT, Amos, 15 Edgemont Ave., Summit, N.J. (1940) Pan American World Airways System, asst. comptroller, bus.; B.B.A., 1923, Univ. of Washington. Fields 11ac, 10, 13b.
- HIBBARD, Benjamin Horace, Agric. Hall, Madison, Wis. (1908) Univ. of Wisconsin; B.S.A., 1898, Iowa Agric. Col.; Ph.D., 1902, Wisconsin. Fields 15, 1a, 3a. Doc. dis. History of agriculture in Dane County, Wisconsin (Univ. of Wisconsin, 1940). Pub. Marketing agricultural products (Appleton, 1921); A history of public land policies (Macmillan, 1924); Agriculture economics (McGraw-Hill, 1948). Res. History of U.S. tariff. Dir. W.W. in Amer.
- HICKMAN, C. Addison, 221 University Hall, Iowa City, Iowa. (1946) State Univ. of Iowa, prof. of econ., teach., res.; b. 1916; B.A., 1937, M.A., 1938, Ph.D., 1942, Iowa; 1939, Columbia. Fields lab, 4ab, 9. Doc. dis. Economic implications of development of strategic materials industries. Pub. Pan-American economics (Wiley, 1943); World economic problems (Pitman, 1947). Res. Conflicts between U.S. farm and foreign policies; study of criteria of optimum income distribution.
- HICKMAN, Walter Braddeock, Nat. Bur. of Econ. Res., 254th St. and Independence Ave., New York 63, N.Y. (1940)
- HICKS, Clifford Milton, Univ. of Nebraska, Lincoln 8, Neb. (1934) Univ. of Nebraska, prof., teach., res.; b. 1903; LL.B., 1924, A.B., 1925, A.M., 1927, Nebraska. Fields 8, 11. Pub. An introduction to business (Rinehart, 1948); Corporation finance (Harper, 1948); Problems in corporation finance (Graves Prtg. Co., 1940). Res. History of financial institutions in Nebraska.
- HICKS, William Trotter, 63 Prince Pl., Athens, Ga. (1935) Univ. of Georgia, Bur. of Bus. Res., dir.; Dept. of Mktg., head; Bur. of Census, special agent, res., teach., edit., govt. serv.; b. 1907; B.S., 1927, M.S., 1928, Florida; 1929, Wisconsin; Ph.D., 1935, Northwestern. Fields 11b, 6, 14bc. Doc. dis. Economic effects of nationalization of foreign property in Mexico (Northwestern Univ., 1935). Res. Market potential for southern hardwood plywood; long-time capital needs in Georgia.
- HIDY, Muriel Emmie, 35 Borage Pl., Forest Hills, L.I., N.Y. (1932)
- HIGDON, Earl Terril, Osborn, Mo. (1941) Re-organized Church of Jesus Christ of Latter Day Saints, bishop; b. 1907; B.S.C., 1929, Iowa; M.A., 1937, Northwestern. Fields 15ab, 4ab, 1a.
- HIGGINS, Benjamin H., Melbourne Univ., Melbourne, Australia. (1946)
- HIJAKATA, S., 47 Ichibancho, Kojimachi-ku, Tokyo, Japan. (1921)
- HILDEBRAND, George Herbert, Univ. of California, Dept. of Econ., 250 Royce Hall, Los Angeles 24, Calif. (1939) Univ. of California, Dept. of Econ., asst. prof. of econ., Inst. of Ind. Rela.,

- res. asso., res., teach., edit.; b. 1913; B.A., 1934, California; M.A., 1941, Harvard; Ph.D., 1942, Cornell Univ. Fields lab, 16, 4ab. Doc. dis. Theory of markets and problem of economic crises from Quesnay to Marx. Pub. "Monopolization and investment opportunity," 1943, "Nathan report and its critics," A.E.R., 1947. Res. Descriptive study and economic analysis of welfare funds; wage inflation problems under full employment planning; economic implications of industry-wide bargaining.
- HILDERETH, Clifford G.**, Iowa State Col., Econ. Dept., Ames, Iowa. (1944) Iowa State Col., Dept. of Econ. and Soc. Statis. Lab., asso. prof., teach., res.; b. 1917; A.B., 1939, Kansas; M.S., 1941, Ph.D., 1947, Iowa State Col. Fields 3ab, 15b, 1ac. Doc. dis. Study in production functions from farm-record data. Pub. Estimation of income tax revenue and incidence (Res. Bul. 300, Iowa Agric. Exp. Sta., Apr., 1942); "Note on maximization criteria," Q.J.E., Dec., 1946. Res. Empirical production functions.
- HILGERDT, Folke**, 7 Wooleys Lane, Great Neck, N.Y. (1943)
- HILKEN, Henry Gerhard**, 401 Elm St., Chevy Chase 15, Md. (1941) Dept. of Justice, Office of Alien Property, Operations Br., chief, govt. serv., bus.; b. 1909; A.B., 1931, A.M., 1933, Princeton; 1932-33, Chicago. Fields 12b, 10, 7.
- HILL, Daniel A.**, 1633 Compton Rd., Cleveland Heights 18, Ohio. (1931) Ohio Pub. Serv. Co., gen. rate and valuation engr.; Fenn Col., statis. lecturer; John Carroll Univ., ind. mgt. lecturer; consult. engr.; b. 1898; A.B., 1929, M.B.A., 1936, Western Reserve. Fields 12, 13a, 11a. Dir. W.W. in Engr., Who Knows—and Why.
- HILL, Forest Garrett**, 534 W. 124th St., New York 27, N.Y. (1946) Columbia Univ., instr. of econ., teach., res.; b. 1919; B.A., 1941, M.A., 1946, Texas; 1946-47, Columbia. Fields 2a, 12, 13a. Res. A history of river and harbor development policies of the Corps of Engineers (doc. dis.).
- HILL, George Bradbury**, 618 N. Lucerne Blvd., Los Angeles 4, Calif. (1923)
- HILL, James Christian**, 1009 Edgewood Ave., Pelham Manor, N.Y. (1940) Sarah Lawrence Col., prof. of econ., teach., res.; b. 1914; B.A., 1935, Swarthmore; 1933-34, Wisconsin; 1935-38, Columbia; 1936-37, London School of Econ. Fields 16, 4ab, 1ab. Res. Study of wage stabilization program in war and postwar periods.
- HILL, Robert J.**, 50 Congress St., Boston 9, Mass. (1947)
- HILL, Samuel Smith**, 1815 17th St., N.W., Washington, D.C. (1943) Ind. Col. of Armed Forces, instr., teach., res.; b. 1900; A.B., 1923, Yale; M.B.A., 1939, New York; 1940-43, American. Field 13bc. Res. Cost finding in transportation rate making (doc. dis.).
- HILL, Wendell Coombs**, 4514 Connecticut Ave., N.W., Washington 8, D.C. (1948) Bur. of Census, econ.; Wendell C. Hill and Associates, propr.; bus., govt. serv.; b. 1894; attended Hillsdale Col., Southern California. Fields 14a, 11a, 6.
- HILLHOUSE, Albert Miller**, Finance Group, Bipartite Control Office, APO 757, c/o Postmaster, New York, N.Y. (1941) Univ. of Cincinnati, Dept. of Econ., asso. prof. of pub. fin. (on leave); U.S. Military Govt. for Occupied Germany, Finance Group, Bipartite Control Office, Pub. Fin. Br., chief, govt. serv., teach.; b. 1902; A.B., 1924, Davidson Col.; J.D., 1930, New York; M.A., 1931, North Carolina; Ph.D., 1938, Northwestern. Fields 9, 12b, 5. Doc. dis. Municipal bonds—a century of experience (Prentice-Hall, 1936). Pub. Tax limits appraised (co-author) (Pub. Admin. Serv., 1937); Local Government debt administration (with C. H. Chatters) (Prentice-Hall, 1940); Where cities get their money (with M. Magelssen) (Munic. Fin. Officers Assn., 1945). Dir. Dir. of Schol.
- HILLMAN, Murray**, 440 W. 34th St., New York 1, N.Y. (1946) Amer. Mgt. Coun., vice-pres., res., bus.; b. 1922; B.B.A., 1942, City of New York; M.S., 1947, 1947-48, Columbia. Fields 11ab, 3, 6. Pub. "The national grinding wheel case threatens relief claims," Taxes, Oct., 1947; "Pricing factors for more profits," Advertising Age, Oct., 1947. Res. Psychology of investment decisions.
- HILTON, Howard, Jr.**, Amer. Legation, Budapest, Hungary. (1942)
- HIMADEH, Sa'id Behmed**, Amer. Univ., Beirut, Lebanon. (1928)
- HIMMELBAU, David**, 337 E. Chicago Ave., Chicago Ave. Sta., Chicago, Ill. (1914)
- HIMMELFARB, Milton**, 1967 81st St., Brooklyn 14, N.Y. (1946)
- HINES, Howard Harry**, Kirkland House B-23, Cambridge 38, Mass. (1947) Harvard Univ., student, res., teach.; b. 1922; B.A., 1942, Iowa; A.M., 1948, Harvard. Fields 12a, 7, 6.
- HINMAN, Albert Greene**, Principia Col., Elmhurst, Ill. (1934) Principia Col., prof., dept. head, teach.; b. 1894; B.J., 1917, Missouri; M.A., 1924, Wisconsin; Ph.D., 1931, Northwestern. Fields lab, 15ac, 11b. Doc. dis. Population growth and its demands upon land for housing (Evanston News Index, 1931). Pub. Real estate merchandising (McGraw-Hill, 1926); Urban land economics (Macmillan, 1928); "Classification of real estate," Annals of the Amer. Acad., Mar., 1930. Res. Land: an economic concept.
- HINRICHS, Albert Ford**, 3214 Newark St., N.W., Washington 6, D.C. (1935)
- HINSHAW, Randall Weston**, 2407 15th St., N.W., Apt. 107, Washington 9, D.C. (1940) Bd. of Gov. of Fed. Res. System, econ., res., govt. serv.; b. 1915; A.B., 1937, M.A., 1938, Occidental; 1938-39, Claremont; Ph.D., 1944, Princeton. Fields 10, 3c, 1a. Doc. dis. Wages and unemployment: a preliminary analysis. Pub. "American prosperity and British balance-of-payments problem," Rev. of Econ. Statis., Feb., 1945; "Foreign investment and American employment," A.E.R., May, 1946; "Keynesian commercial policy," in New economics (Knopf, 1947). Res. Critical analysis of concept of chronic dollar scarcity.
- HIRSCH, Donald Brainin**, 24 Ferncliff Rd., Scarsdale, N.Y. (1948) B. 1923; 1941-43, New York; B.A., 1946, M.A., 1948, Michigan. Fields 10, 7, 4ac. Res. Overseas investments of Japanese Mitsui Combine.
- HIRSCH, Edith (Mrs. Julius)**, 545 West End Ave., Apt. 161, New York, N.Y. (1944)
- HIRSCH, JULIUS**, 545 West End Ave., Apt. 161, New York, N.Y. (1944)
- HIRSCH, Melvin Lester**, 328 New York Ave., Brooklyn 13, N.Y. (1942) Coun. at law, bus., res.; b. 1923; B.A., 1944, Cornell Univ.; LL.B., 1948, Harvard. Fields 8ab, 16, 9.
- HIRSCHMAN, Albert O.**, Bd. of Gov. of Fed. Res. System, Washington 4, D.C. (1946) Bd. of Gov. of Fed. Res. System, econ., govt. serv., res.; b. 1915; B. Stat., 1934, Sorbonne Inst. of Statis. (Paris); B. Com., 1935, Hautes Etudes Commerciales (Paris); Ph.D., 1938, Univ. of Trieste. Fields 10, 3, 2. Doc. dis. French monetary policy 1928-38. Pub. National power and structure of foreign trade (Univ. of California Press, 1945); "Commodity structure of world trade," Q.J.E., Aug., 1943; "Measures of dispersion for a finite distribution," Jour. of Amer. Statis. Asso., Sept., 1943. Res. Postwar exchange rate policies in Europe; postwar structure of European trade and payments.
- HIRSEMAN, Paul William**, Syracuse Univ., Econ. Dept., Syracuse 10, N.Y. (1947) Syracuse Univ., instr., teach.; b. 1915; B.S. Ed., 1938, Buffalo State Teachers Col.; M.S. Ed., 1942, Syracuse. Fields 1ac, 9, 5.
- HIRSHLEIFER, Jack**, 789 St. Marks Ave., Brooklyn 13, N.Y. (1946) Harvard Univ., student, teach.; b. 1925; S.B., 1945, M.A., 1948, Harvard. Fields 16, 1a, 12a. Pub. "A note on expectations," A.E.R., Dec., 1946. Res. Price determination in manufacturing industries (doc. dis.).
- HITCH, Charles Johnston**, 24,752 Malibu Rd., Malibu, Calif. (1945) Rand Corp., chief econ., res.; b. 1910; B.A., 1931, Arizona; M.A., 1938, Oxford. Fields 1a, 12b, 10. Pub. "Price policy and business behaviour," Oxford Econ. Papers No. 2,

1938; America's economic strength (Oxford Univ. Press, 1941); "Lessons of reconversion," Rev. of Econ. Statis., 1947.

HITCH, Thomas Kemper, 3971, Langley Ct., N.W., Washington 16, D.C. (1942) Coun. of Econ. Advisers, econ. govt. serv.; b. 1912; A.B., 1934, Stanford; Ph.D., 1937, Univ. of London; M.A., 1946, Columbia. Fields 16, 6, 12b. Doc. dis. Personnel policies of socialized industries. Pub. "British manpower control experience," Feb., 1943, "Alternatives in war finance," Oct., 1942, Survey of Cur. Bus.; "Administration of America's Pacific Islands," Polit. Sci. Quar., Sept., 1946.

HITCHINGS, George P., Ford Motor Co., Dearborn, Mich. (1948) Ford Motor Co., Econ. Anal. Dept., dir.; b. 1916; B.A., 1937, Maine; 1937-39, American. Fields 6, 8ab, 7. Res. Studies of future demand for automotive products.

HYELMSTAD, J. H., 416 S. Seventh St., Moorhead, Minn. (1934)

HOADLEY, Walter Evans, Jr., 2756 Lincolnwood Dr., Evanston, Ill. (1942) Fed. Res. Bank of Chicago, bus. econ., res., bus., edit.; b. 1916; A.B., 1938, M.A., 1940, Ph.D., 1946, California. Fields 8ab, 6, 14ab. Doc. dis. Pricing and competition in distribution of refined petroleum products: a comparison of Midwest-Great Lakes and Pacific Coast regions. Pub. A financial and economic survey of meat packing industry (Fed. Res. Bank of Chicago, 1947, 1948); An economic and industrial survey of San Francisco Bay area (Calif. State Plan. Bd., 1941); "Business inventories and bank credit" Bul. of the Robert Morris Asso., May, 1947. Res. Financial structure of American business; an economic analysis of the Chicago industrial area. Dir. W.W. in Com. and Ind., in Central States, in Midwest, Who Knows—and What.

HOAG, Clarence Gilbert, 619 Walnut Lane, Haverford, Pa. (1943) Teaching; b. 1873; A.B., 1893, Haverford; A.B., 1894, A.M., 1898, Harvard. Fields 7, 4. Doc. dis. A needs-of-trade money system and its equations. Pub. A theory of interest (1914), Proportional representation (with G. H. Hallett, Jr.) (1926) (Macmillan). Dir. W.W. in Amer.

HOAG, Howard L., No. 53 Court C. W. State St., West Lafayette, Ind. (1947) Purdue Univ., instr., teach.; b. 1905; A.B., 1927, Kalamazoo Col.; M.A., 1932, Florida. Fields 9, 1.

HOAG, Pierre, Eastman Kodak Co., Kodak Park, Rochester, N.Y. (1940)

HOAGLAND, Henry E., 2448 Southway Dr., Columbus 12, Ohio. (1910) Ohio State Univ., prof. of bus. fn., teach., res.; b. 1886; A.B., M.A., 1910, Illinois; 1910-11, Wisconsin; Ph.D., 1917, Columbia. Fields 8ab, 15e, 11a. Doc. dis. Collective bargaining in lithographic industry (Columbia Studies, 1918). Pub. Corporation finance (3rd ed., 1947), Real estate principles (1940) (McGraw-Hill). Res. Real estate finance. Dir. W.W. in Amer., Dir. of Schol.

HOBBART, George H., 501 Richardson St., High Point, N.C. (1943) High Point Col., prof., dept. head, teach.; b. 1885; A.B., 1908, Michigan; M.A. 1941, Ph.D., 1948, North Carolina. Fields 11ab, 14a, 1a. Doc. dis. Dinnerware industry in the U.S.

HOBBAR, Reginald Vyvyan, Chestnut Ave., Bernardsville, N.J. (1946) Rutgers Univ., School of Bus. Admin., Dept. of Transport chmn., prof., teach., res.; b. 1901; B.S., 1931, M.A., 1934, Pittsburgh; Ph.D., 1944, Chicago. Fields 13b, 11a, 1a. Doc. dis. Railroad transit privileges (Jour. of Bus., Univ. of Chicago Press, 1944). Res. General theory of supply of and demand for transport services.

HOBBES, V. G., 4278 Sherbrooke Ave., W., Montreal, Que., Canada. (1946)

HOBS, Ronald Purcell, 232 Madison Ave., New York 16, N.Y. (1946) Rinehart and Co., Col. Dept., dir.; b. 1907; A.B., 1930, Dartmouth.

HOBSON, Asher, Univ. of Wisconsin, Madison 6, Wis. (1920) Univ. of Wisconsin, prof.; b. 1889; A.B., 1913, Kansas; M.A., 1915, Wisconsin; Dr.

Pol. Sc., 1931, Univ. of Geneva (Switzerland). Fields 15b, 4, 10. Doc. dis. International Institute of Agriculture (Univ. of California Press, 1931). Dir. W.W. in Amer.

**HOCH, Minnie Bell (Mrs. Myron L.), 131 Joralemon St., Brooklyn 2, N.Y. (1945)

HOCH, Myron L., 131 Joralemon St., Brooklyn 2, N.Y. (1944)

HOCHMANN, Arthur, 945 Maple Dr., Memphis 12, Tenn. (1948)

HOCHWALD, Werner, Washington Univ., Dept. of Econ., St. Louis 5, Mo. (1942) Washington Univ., asst. prof. of econ., teach., res.; b. 1910; attended Univ. of Berlin, Univ. of Freiburg; Ph.D., 1944, Washington Univ. Fields 1, 3, 5. Doc. dis. Dynamics of labor demand. Pub. "Collective bargaining and economic theory," Southern Econ. Jour., Jan., 1947; "Guaranteed wages," A.E.R., June, 1947. Res. Measurement of regional income flows.

HODGES, Edward Pegues, 2222 Q St., N.W., Apt. 53, Washington 8, D.C. (1944) Dept. of Justice, special asst. to atty. general; b. 1897; 1913-14, Col. of Charleston; A.B., LL.B., 1919, South Carolina; LL.M., 1937, S.J.D., 1941, Georgetown. Fields 12b, 14ab, 11a. Doc. dis. Supreme Court and Section 1 of Sherman Act (published under title, Antitrust Act and the Supreme Court, West Pub. Co., 1941). Res. Antitrust laws.

HODGES, Henry G., 1211 Far Hills Ave., Dayton 9, Ohio. (1947) Henry G. Hodges Associates, dir.; Army Air Forces, adms. res.; res., govt. serv., teach.; b. 1888; A.B., 1911, Princeton; M.A., Ph.D., 1915, Pennsylvania. Fields 11a, 16, 14a. Pub. Pawnbroking (Taylor Pub. Co., 1943); Measuring management (Westheimer, 1947); City management (Crofts, 1939). Res. Industrial management. Dir. W.W. in East, in Finance, Dir. of Schol.

HODGES, John Elton, Rice Inst., Houston, Tex. (1946) Rice Inst., asst. prof.; Hughes Tool Co., econ.; teach., bus.; b. 1913; B.B.A., 1935, M.B.A., 1937, Texas; 1938-41, California. Fields 11ac, 8ab, 3a. Res. Depreciation and flow of business funds.

HODGES, John R., Univ. of Kansas City, Kansas City 4, Mo. (1938)

HODGES, Julian Adair, Kansas State Agric. Col., Manhattan, Kan. (1928)

HODGKINS, Alton Ross, Centre Col. Danville, Ky. (1926) Centre Col., prof., dept. head, teach., res.; b. 1890; B.A., 1911, Bates Col.; M.A., 1926, American; Ph.D., 1929, Johns Hopkins. Fields 1a, 17d, 12. Doc. dis. Campomanes: representative Spanish economist. Pub. "Consumption and the good life," Southwestern Soc. Sci. Quar., June, 1945; Marine insurance and general average (Govt. Prtg. Office, 1926). Dir. W.W. in Amer. Educa., Dir. of Schol.

HOEBER, Francis P., C & I, BICO, APO 757, New York, N.Y. (1943) Bipartite Control Office, Com. and Ind. Group, Res. and Statis. Br., chief, govt. serv.; b. 1918; A.B., 1940, Antioch; 1941-43, American. Fields 3, 12b.

HOEFFDING, Oleg, Columbia Univ., Dept. of Econ., New York 27, N.Y. (1946) Columbia Univ., asst. prof., teach., res.; b. 1915; Ph.D., 1938, Berlin Univ. Fields 10, 4a, 1a. Doc. dis. Die Nicht-Eisen-Metallwirtschaft der Sowjetunion (Carl Nieft, 1939). Pub. Soviet oil industry and its export potential (Birmingham Bur. of Res. on Russian Econ. Conditions, May, 1940); "U.S.S.R. and world trade," in Britain and her export trade (1946), U.S. and world trade (1946) (Pilot Press, London).

HOENIGER, Heinrich, 110 Morningside Dr., Apt. 26, New York 27, N.Y. (1943)

**HOFFENBERG, Betty Stern (Mrs. Marvin), 2410 Colston Dr., Silver Spring, Md. (1944) U.S. Dept. of Treas., econ., govt. serv.; b. 1922; B.A., 1943, Swarthmore; 1945-46 (part time), George Washington; M.A., 1947, Columbia; 1947 (part time), American. Fields 9, 1ab, 10.

HOFFENBERG, Marvin, 2410 Colston Dr., Silver Spring, Md. (1943) Bur. of Labor Statis.,

- govt. serv.; b. 1914; 1934-35, St. Bonaventure; B.S., 1939, M.A., 1940, Ohio State. Fields 5, 3c, 14. Pub. "Estimates of national output, distributed income, consumer spending, saving and capital formation," Rev. of Econ. Statis., May, 1943; "Full employment patterns: 1950," Feb., Mar., 1947, "Employment resulting from U.S. exports," Dec., 1947, Monthly Labor Rev.
- HOFFMAN, Arnold**, 2565 Yale Sta., New Haven, Conn. (1947)
- HOFFMAN, Charles**, 231-10 131st Ave., Rosedale 10, L.I., N.Y. (1946) Queens Col., tutor; Columbia Univ.; teach., res.; b. 1921; A.B., 1942, Queens Col.; A.M., 1947, 1947-48, Columbia. Fields 2a, 10, 16. Res. Letters of T. V. Powderly (Knights of Labor).
- HOFFMAN, George Wright**, Univ. of Pennsylvania, Logan Hall, Philadelphia 6, Pa. (1920) Univ. of Pennsylvania, prof. of ins. and mktg., teach., res.; b. 1896; A.B., 1919, Park Col.; Ph.D., 1925, Pennsylvania. Fields 8bc, 1a, 12a. Doc. dis. Hedging by dealing in grain futures. Pub. Future trading upon organized commodity markets (Univ. of Pennsylvania Press, 1932); Security markets (co-author) (Twentieth Century Fund, 1935); Life insurance investments—their changing frontiers (Col. of Life Underwriters, 1948). Res. Beneficiary of life insurance. Dir. W.W. in Pennsylvania.
- HOFFMAN, Shirley Sara**, 239 Hillside Ave., Newark 8, N.J. (1948) Nat. Ind. Conf. Bd., researcher; b. 1922; B.A., 1944, New Jersey Col. for Women; 1945-46, New School for Soc. Res.; 1946-48, Columbia. Field 14a. Pub. "Wool and politics," July, 1947, "Helping Europe grow its own food," Dec., 1947, "Healthy demand for machine tools," Mar., 1948, Conf. Bd. Bus. Record.
- HOFLICH, Harold J.**, Montana State Univ., School of Bus. Admin., Missoula, Mont. (1948) Montana State Univ., Bur. of Bus. Res., dir., prof. of bus. admin., res., teach.; b. 1902; B.A., 1925, Oregon; Ph.D., 1933, California. Fields 8c, 14, 7. Doc. dis. Investments of American life insurance companies since 1906.
- HOGAN, John Arthur**, 45 Mill Rd., Durham, N.H. (1947)
- HOGAN, Thomas E.**, 1950 W. Monroe St., Chicago 12, Ill. (1943)
- HOGAN, William T.**, Fordham Univ., Spellman Hall, New York 58, N.Y. (1945)
- HOGG, Malcolm William**, 6029 Dorchester Ave., Chicago 37, Ill. (1947) Univ. of Chicago, student; b. 1922; B.A., 1942, M.A., 1943, Ohio State; 1946-48, Chicago. Fields 1, 10, 7. Res. Full employment policies and international equilibrium (doc. dis.).
- HOHE, Hubert G.**, 63 Wall St., New York, N.Y. (1942)
- HOHMAN, Elmo Paul**, 625 Haven, Evanston, Ill. (1936) Northwestern Univ., prof., teach., res.; b. 1894; A.B., 1916, M.A., 1917, Illinois; M.A., 1920, Ph.D., 1925, Harvard. Fields 16, 17bd, 4c. Doc. dis. Study of labor conditions in American whaling industry, 1785-1885. Pub. International Labor Organization and the seaman (Geneva, Switzerland, Res. Center, 1947); "Maritime labor in the U.S.," Int. Labour Rev., Aug., Sept., 1938. Res. Study of merchant seamen in port; history of United Seamen's Service; maritime labor economics. Dir. Dir. of Schol., W.W. in Midwest, in Chicago and Illinois.
- HOLINGTON, Frederick Reed, Jr.**, 60 Beaver St., New York 4, N.Y. (1935) Corn. Schwarz & Co., partner, bus.; b. 1898; B.S., 1919, Trinity; 1925-27, New School for Soc. Res. Fields 8, 6, 7. Pub. "Consumer credit," in Docs distribution cost too much? (Twentieth Century Fund, 1929).
- HOLBEN, Ralph Erdman**, 1 River Ridge Rd., Hanover, N.H. (1942)
- HOLDEN, Arthur C.**, 570 Lexington Ave., New York, N.Y. (1942)
- HOLDER, Frederick Charles**, 832 University Pl., Grosse Pointe 30, Mich. (1939) Hudson Motor Car Co., dir. of labor rela., bus.; b. 1914; B.S., 1934, M.A., 1938, Buffalo; 1934-35, Chicago. Fields 11a, 16, 12.
- HOLDREN, Bob Ray**, 711 E. 19th St., Anderson, Ind. (1947)
- HOLDSWORTH, John Thom**, Univ. of Miami, Miami Univ. Br., Miami, Fla. (1903) Univ. of Miami, School of Bus. Admin., dean emeritus, prof. of fin., teach.; b. 1873; 1895, Drexel Inst. of Tech.; A.B., 1904, New York; Ph.D., 1907, Pennsylvania. Fields 7, 8, 9. Doc. dis. First bank of U.S. (Congress of U.S., 1905-06). Pub. Money and banking (Appleton, 1st ed., 1914, 6th ed., 1937); History of banking in Pennsylvania (S. L. Clarke Pub. Co., 1923). Res. Revision of Money and banking.
- HOLLADAY, James**, Box 1995, University, Ala. (1929) Univ. of Alabama, Dept. of Fin., head, teach.; b. 1893; B.S., 1915, Georgetown Col. (Ky.); M.S., 1923, Illinois; Ph.D., 1927, Iowa. Fields 7, 8bc, 10. Doc. dis. Canadian banking system. Pub. Canadian banking system (Bankers Pub. Co., 1938); "Currency of Canada," A.E.R., June, 1934.
- HOLLAND, Daniel Mark**, Columbia Univ., Hamilton Hall, Room 808, New York 27, N.Y. (1947) Columbia Univ., instr.; b. 1920; B.A., 1941, 1946-48, Columbia. Fields 9, 6, 7.
- HOLLANDER, (Mrs.) Leona Rosen**, 14 Washington Pl., New York 3, N.Y. (1942)
- HOLLANDER, Stanley C.**, 106-15 Queens Blvd., Forest Hills, L.I., N.Y. (1947) Univ. of Buffalo, instr., teach.; b. 1919; B.S., 1941, New York; M.A., 1946, American. Fields 11ab, 12, 13bc. Res. Analysis of club selling plans.
- HOLLEB, Doris Bernstein (Mrs. Marshall M.)**, 3270 Lake Shore Dr., Chicago 13, Ill. (1947) B. 1922; A.B., 1942, Hunter; M.A., 1947, Radcliffe. Fields 9, 15de, 10. Pub. "Exchange rates and exchange control," 1944, "Exchange stabilization funds," 1944, Britannica Book of the Year.
- HOLLEY, Helen Lewis (Mrs. Julian L.)**, 2700 Q St., N.W., Washington 7, D.C. (1946) B. 1900; A.B., 1922, Mt. Holyoke; M.Ed., 1941, Boston. Fields 2a, 14a, 8b.
- HOLLEY, Julian Laurence**, 2700 Q St., N.W., Washington 7, D.C. (1940) U.S. Treas. Dept., econ. anal., res., govt. serv.; b. 1898; A.B., 1921, M.A., 1922, Ph.D., 1924, 1936-40, Harvard. Fields 3, 3a, 1c. Doc. dis. Linear spaces and their fixed points.
- HOLLOWAY, Charles Stuart**, 2526 11th St., N.W., Washington 1, D.C. (1948)
- HOLLOWELL, Walter Maxwell**, 2388 Albion St., Denver 7, Colo. (1939) Lowry Air Force Base, cost anal., bus., govt. serv., res.; b. 1913; B.S., B.A., 1935, Univ. of Colorado; M.B.A., 1939, Northwestern. Fields 8, 11ac, 9.
- HOLM, Edwin Emanuel, Jr.**, R. 1, Lynnhaven, Va. (1944)
- HOLMAN, Wayne James, Jr.**, 944 Kensington Ave., Plainfield, N.J. (1944) Chicopee Mfg. Corp., vice-pres., bus.; b. 1907; B.S. in E.E., 1928, Georgia School of Tech.; M.S. in E.E., 1930, Yale; S.M., 1939, M.I.T. Dir. W.W. in Engineering.
- HOLMES, Floyd C.**, 4121 W St., N.W., Washington, D.C. (1934)
- HOLMES, Harriet Jane**, 5945 Washington Blvd., Indianapolis 20, Ind. (1948) Western Col. for Women, Econ. Dept., head, asso. prof., teach., res.; b. 1917; A.B., 1938, Vassar; A.M., 1945, Ph.D., 1948, Radcliffe. Fields 12a, 3a, 9. Doc. dis. War-time profits in woolen manufacture: study of apparel fabric manufacturers in Massachusetts, 1940-46.
- HOLT, Charles Carter**, Univ. of Chicago, Int. House, Chicago 37, Ill. (1947) Univ. of Chicago, student; b. 1921; S.B., S.M., 1944, M.I.T. Fields 6, 3, 1. Pub. "Graphic depiction of elasticity of demand" (with P. A. Samuelson), J.P.E., Aug., 1946.
- HOLTHAUSEN, Duncan M.**, 619 Poplar Dr., Falls Church, Va. (1939)
- HOLTON, Richard Henry**, 1502 N. Highland St., Columbus 1, Ohio. (1948) Ohio State Univ., asst., teach.; b. 1926; B.S., 1947, Miami Univ.; 1947-48, Ohio State. Fields 7, 1a, 11c.
- HOLZMAN, Mathilda**, 2112 Dexter Ave., Silver Spring, Md. (1947)
- HOMAN, Paul Thomas**, 1705 21st St., N.W.,

Washington 9, D.C. (1925) Coun. of Econ. Advisers, econ. govt. serv.; b. 1893; B.A., 1914, Willamette; B.A., 1919, Univ. of Oxford; Ph.D., 1926, Brookings. Fields lab, 12b, 9. Doc. dis. Contemporary economic thought (Harper, 1928). Pub. National Recovery Administration (co-author) (1935). Government and economic life (co-author) (1940) (Brookings); Sugar economy of Puerto Rico (co-author) (Columbia Univ. Press, 1938). Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.

HOMBERGER, Ludwig Maximilian, American Univ., 1901 F St., N.W., Washington 6, D.C. (1939) American Univ., prof. of transp., teach., res.; b. 1882; 1901-04, Univ. of Munich, Berlin, Leipzig; Dr. Jur. et Rer. Pol., 1906, Univ. of Würzburg. Field 13ab. Doc. dis. Das Recht der entstehenden Aktiengesellschaft (Schweitzer & Co., Munich, 1907). Pub. Wirtschaftsführung und Finanzwesen der Deutschen Reichsbahn (Verkehrsw. Lehrmittelgesellschaft, b.d.d. Reichsbahn, 1934); Role of public action in transportation abroad, transportation and national policy (Nat. Resources Plan. Bd., 1942); "Coordination of road and rail transport and organization of trucking industry," Jour. of Land and Pub. Util. Econ., May, 1941. Dir. W.W. in Railroad.

HOMER, Winfield Moore, Box 267, R. 1, Annandale, Va. (1947) Labor Bur. of Middle West, econ., res.; b. 1911; B.S.B.A., 1934, Washington Univ. Fields 16, 4ab, 17bd.

HON, Ralph Clifford, Southwestern at Memphis, Memphis 12, Tenn. (1928) Southwestern, prof., dept. head, teach.; b. 1903; 1920-23, Central Col. (Fayette, Mo.); A.B., 1924, Illinois; A.M., 1927, Harvard; Ph.D., 1930, North Carolina. Fields 8ab, 7, 9. Doc. dis. Railway efficiency since 1920. Pub. "Memphis power and light deal," Jan., 1940, "The South in a war economy," Jan., 1942, Southern Econ. Jour.

HONG, Everette Nels, Syracuse Univ., Maxwell Hall, Syracuse 10, N.Y. (1940) Syracuse Univ., asso. prof., teach., res.; B.A., 1934, Univ. of Washington; Ph.D., 1944, Southern California. Fields 1a, 8a, 9. Doc. dis. Analysis of criticisms of tentative principles of accounting.

HONNOLD, Junia Helene, 229 N. Piedmont St., Arlington, Va. (1930) U.S. Dept. of Com., Bur. of Census, econ., govt. serv.; b. 1895; A.B., 1917, Simpson; M.A., 1920, 1930-34, Columbia. Fields 7, 15cde, 14a.

HOOD, William Clarence, Univ. of Toronto, Dept. of Polit. Econ., 273 Bloor St., W., Toronto 5, Ont., Canada. (1947) Univ. of Toronto, lecturer, teach., res.; b. 1921; B.A., 1941, Mount Allison Univ.; M.A., 1943, Ph.D., 1948, Univ. of Toronto. Fields 1, 3, 10. Doc. dis. Some aspects of theory of employment and international trade. Pub. "Some aspects of treatment of time in economic theory," Canadian Jour. of Econ. and Polit. Sci., Aug., 1948. Res. Employment and trade, history and theory, with special reference to Canada.

HOOKS, Janet Montgomery (Mrs. V. Lewis Bassie), 3908 S. 7th St., Arlington, Va. (1944) U.S. Dept. of Labor, Women's Bur., res.; b. 1912; A.B., 1933, Mount Holyoke; M.A., 1934, 1934-35, Bryn Mawr. Field 16. Pub. British policies and methods in employing women in wartime (Bul. No. 200, 1944), Women's occupations through seven decades (Bul. No. 218, 1947) (Women's Bur.); "Effects of war casualties on economic responsibilities of women," Monthly Labor Rev., Feb., 1946. Res. Women in federal service, 1923-47.

HOOS, Sidney, Univ. of California, Giannini Found., Berkeley, Calif. (1939) Univ. of California, asso. prof., asso. econ., res., teach.; b. 1911; 1929-31, Maine; A.B., 1934, A.M., 1935, Michigan; Ph.D., 1939, Stanford. Fields 15b, 1, 3. Doc. dis. Price relations between December and March wheat futures at Liverpool (Wheat studies, Food Res. Inst., Nov., 1939, Nov., 1940). Pub. Price relations of Liverpool wheat futures with special reference to the December-March spread (with H. Working) (Wheat Studies, Nov., 1940); "An investigation on complementarity relations be-

tween fresh fruits," Jour. of Farm Econ., May, 1941; "Position of auction markets in pricing system," Western Farm Econ. Asso. Proceed., 1946. Res. Economic-statistical analysis of relations between retail sales and prices in selected markets; price discrimination between interdependents markets; price and return effects of crop allocations between alternative utilization outlets. Dir. W.W. on Pacific coast.

HOOT, John Weldon, Univ. of Pennsylvania, Wharton School, Philadelphia 4, Pa. (1946)

HOOVER, Calvin Bryce, Duke Univ., Durham, N.C. (1925) Duke Univ., prof., dept. head, res., teach., govt. serv.; b. 1897; A.B., 1922 Lit.D. (Hon.), 1935, Monmouth; Ph.D., 1926, Wisconsin; 1923-25, Minnesota; Lit.D. (Hon.), 1934, Columbia. Fields 1, 4, 10. Doc. dis. Property and contract in Genoa in 12th and 13th centuries (excerpt, The Sea Roan in Genoa, Q.J.E., 1926). Pub. Economic life of Soviet Russia (1931), Germany enters Third Reich (1933) (Macmillan); International trade and domestic employment (McGraw-Hill, 1945). Res. Economic policies of southern region; a study of comparative economic systems. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.

HOOVER, Edgar Malone, 5705 Chevy Chase Pkwy., Washington 15, D.C. (1933) Coun. of Econ. Advisers, staff econ., govt. serv.; b. 1907; A.B., 1928, A.M., 1930, Ph.D., 1932, Harvard. Fields 15d, 1a, 5. Doc. dis. Location of shoe industry in U.S. Pub. Location theory and shoe and leather industries (Harvard Univ. Press, 1937); Economia Geografica (Fondo de Cultura Economica, Mexico City, 1943); Location of economic activity (McGraw-Hill, 1948). Res. Adequacy of U.S. productive capacity; prospects for business investment, factors determining it, adjustments needed. Dir. Dir. of Schol.

HOOVER Glenn Edwin, Mills Col., Oakland 13, Calif. (1925) Mills Col., prof. of econ. and soc., dept. head, teach., res.; b. 1887; A.B., 1919, M.A., 1922, Univ. of Washington; Docteur en Droit, 1924, Univ. of Strasbourg, France. Fields 4, 7, 10. Doc. dis. La Stabilisation du Franc (Librairie Istra, Strasbourg, France, 1924). Pub. Social Control (co-author) (D. Van Nostrand Co., 1947); Government and politics abroad (co-author) (Funk & Wagnalls, 1947); Twentieth century political thought (co-author) (Philosophical Lib., 1946).

HOPE, John, II, Fisk Univ., Soc. Sci. Inst., Nashville 8, Tenn. (1938)

HOPF, Harry Arthur, Hopf Inst. of Mgt., Inc., Windrose Farm, Ossining, N.Y. (1940) Hopf Inst. of Mgt., pres., res., bus., edit., teach.; b. 1882; B.C.S., 1906, M.C.S., 1914, M.B.A., 1922, New York; 1926-28, Columbia; M.S. (Hon.), 1938, Bryant Col.; D. Eng., 1942 (Hon.), Rensselaer Poly. Inst. Fields 11ab, 12, 17bc. Doc. dis. Management and the optimum. Pub. Historical perspectives in management (1947), Executive compensation and accomplishment (1945), Soundings on literature of management (1945) (Hopf Inst. of Mgt.). Res. Influence of size of business institutions upon operating results. Dir. W.W. in Amer., in New York, in Engineering, in Com. and Ind.

HOPKINS, Francis Washburn, New Jersey Col. for Women, New Brunswick, N.J. (1927) New Jersey Col. for Women, Dept. of Econ. and Soc., prof., chmn., teach.; b. 1896; B.A., 1918, Ph.D., 1930, Yale; LL.B., 1925, Fordham. Fields 4ab, 9, 10. Doc. dis. An historical sketch of local finance in Connecticut until 1930 with special reference to forest resources, forest industries, and taxation of forests (Edwards Bros., 1936). Pub. "Investment operations of universities" Jour. of Bus., Chicago, Apr., 1932; Must we have a post-war depression? (Democratic Discussions, N.J. Educa. Asso., 1943); Excess condemnation (Gov. Com. on Preparatory Res. for N.J. Constitutional Convention 1947). Dir. W.W. in the East, Dir. of Schol.

HOPKINS, John Abel, Jr., c/o U.S. Foreign Service, State Dept., Washington, D.C. (1922)

HOPKINS, William Stephen, Univ. of Washington, Inst. of Labor Econ., Seattle 5, Wash. (1934) Univ. of Washington, prof. of econ., Inst. of

- Labor Econ., dir., teach., res.; b. 1902; B.S., 1925, M.A., 1928, Oregon; 1928-29, California; Ph.D., 1932, Stanford. Fields 16, 17b, 4b. Doc. dis. Development of concept of profit in American economic theory (abstract, Rev. of Econ. Studies, Oct., 1933). Pub. Labor in American economy (McGraw-Hill, 1948); Seasonal unemployment (Univ. of Washington Press, 1936); Social insurance and agriculture (Soc. Sci. Res. Coun., 1940). Res. Labor history in state of Washington. Dir. Dir. of Schol., Lead. in Educa., W.W. on Pacific coast.
- HORN, Donald R., 208 N. Trenton St., Arlington, Va. (1948) U.S. Govt., econ., dept. head, govt. scrv., res.; b. 1913; B.S., 1935, Northwestern; 1940-41, Chicago. Fields 16, 10, 13.
- HORNE, Gilbert Richard, 378 Patricia Rd., Windsor, Ont., Canada. (1933) Assumption Col., prof., teach.; b. 1908; B.A., 1931, Univ. of Western Ontario; A.M., 1936, Michigan. Fields 3, 7, 8.
- HORNE, Roman Lemuel, 25 Marion Ave., McLean, Va. (1935)
- HORNER, Robert Ray, 838 North Shore Dr., Holland, Mich. (1929)
- HORNER, Seward L., General Motors Corp., 1775 Broadway, New York 19, N.Y. (1923)
- HOROWITZ, C. Morris, 1325 E. 19th St., Brooklyn 30, N.Y. (1946) Brooklyn Col., Dept. of Econ., instr.; Amer. Asso. for Jewish Educa., statis.; res., teach.; b. 1918; B.A., 1944, Brooklyn; 1944-46, New School for Soc. Res. Fields 3ac, 16, 17. Pub. Methods in principles of statistical analysis (1st ed., 1946, 2nd ed., 1947). Res. Cost-of-living index—its construction and its use as deflator of national income.
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- HOUGHINS, Joseph Roosevelt, 4919 Just St., N.E., Washington 19, D.C. (1937)
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- HOVDE, Howard T., 1421 Chestnut St., Philadelphia 2, Pa. (1934) Nat. Wall Paper Wholesalers' Asso., exec. dir., bus.; b. 1899; B.S. in Econ., 1922, Ph.D., 1930, Pennsylvania. Fields 11b, 14ac, 17d. Doc. dis. Relative effects of size of type, leading and context (Jour. of Applied Psych., 1930). Pub. National advertising in newspapers (with Borden and Taylor) (Harvard Press, 1946); Marketing in our American economy (editor) (Annals, Amer. Acad. of Polit. and Soc. Sci., 1940). Res. Economic study of wall paper industry. Dir. W.W. in Amer., Lead. in Educa.
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- HOWARD, Edwin Henry, Washington and Lee Univ., Lexington, Va. (1925)

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HOWARD, Jack Arnold, Westville, Ill. (1944) Univ. of Illinois, School of Bus. Admin., asst. prof., teach.; b. 1915; B.S., 1939, M.S., 1941, Illinois; M.A., 1948, Harvard. Fields 12a, 11b, 6.

HOWARD, Sister Jane Mary, Marygrove Col. Lib., Detroit 21, Mich. (1945)

HOWARD, John B., U.S. Tariff Com., Washington 25, D.C. (1945)

HOWARD, Martha C., 25 Claremont Ave., Apt. 11A, New York 27, N.Y. (1946)

HOWARD, Stanley Edwin, 105 FitzRandolph Rd., Princeton, N.J. (1912) Princeton Univ., prof. of econ., teach., res.; A.B., 1910, Bates; A.M., 1913, Ph.D., 1916, Princeton. Fields 8ab, 11c, 2a. Doc. dis. Movement of wages in cotton manufacturing industry of New England since 1860 (Nat. Coun. of Amer. Cotton Mfrs., 1920). Pub. ABC of accounting (Princeton Univ. Press, 1929, 1935, 1938, 1946); "Stockholders' liability under New York Act of March 22, 1811," J.P.E., Aug., 1938; "Trust indenture act of 1939," Jour. of Land and Pub. Util. Econ., May, 1940. Res. Public aspects of corporation finance. Dir. W.W. in Amer., Dir. of Schol.

HOWARD, T. Levrone, Bush Lodge, Kirkwood Ave., Knoxville 15, Tenn. (1938)

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HOWELL, Paul Lloyd, Northwestern Univ., School of Com., Evanston, Ill. (1946) Northwestern Univ., asst. prof. of fin., teach., govt. serv.; b. 1910; B.B.A., 1931, M.A., 1934, Univ. of Washington; M.A., 1942, Harvard. Fields 8, 13a, 12a. Res. Regulation of utility finance (doc. dis.).

HOWELL, Philip Lewis, Univ. of Tulsa, Tulsa 4, Okla. (1936) Univ. of Tulsa, asso. prof., teach.; b. 1912; 1929-31, Amherst; B.A., 1934, M.A., 1935, Pennsylvania. Fields 16, 1a, 7.

HOWENSTINE, E. Jay, Jr., Int. Labour Office, Montreal 25, Que., Canada. (1944) Int. Labour Office, Econ. Sec., member of sec., res.; b. 1914; B.A., 1936, Miami Univ.; M.A., 1938, Ph.D., 1942, Ohio State. Fields 1a, 6, 9. Doc. dis. Economics of demobilization (Amer. Coun. of Pub. Affairs, 1944). Pub. "Dovetailing rural public works into employment policy," Rev. of Econ. Statis., Aug., 1946; "Some principles of compensatory action," Q.J.E., Nov., 1946; "An inventory of public construction needs," A.E.R., June, 1948. Res. Public work and full employment policy.

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HOYT, Elizabeth Ellis, Iowa State Col., Dept. of Econ., Ames, Iowa. (1925) Iowa State Col., prof., teach., res.; b. 1893; A.B., 1913, Boston Univ.; M.A., 1924, Ph.D., 1925, Radcliffe. Field 17d. Doc. dis. Foundations of economic value (published under title, Primitive trade, by Kega Paul, London, 1926). Pub. Consumption of wealth (Macmillan, 1928); Consumption in our society (McGraw-Hill, 1938); "Place of Gestalt theory in the dynamics of demand," Amer. Jour. Econ. and Soc., Oct., 1944. Res. Psychology of wants, as seen by an economist; cultural change. Dir. Dir. of Schol.

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*HU, Sien-Tsin, 1105 W. Clark St., Urbana, Ill. (1947)

HUBBARD, Joseph Bradley, 107 S. Mountain Ave., Montclair, N.J. (1914) Tri-Continental Corp., econ., dept. head, res., edit.; b. 1890; A.B., 1912, M.A., 1913, Wisconsin; Ph.D., 1923, Harvard. Fields 6, 8, 1b. Doc. dis. Economic thought in patristic literature. Pub. The banks, the budget, and business (Macmillan, 1934); "U.S. federal debt with special reference to bank holdings and monetary controls," in Business and modern society (Harvard Univ. Press, 1938); "Easy money: doctrine and results," Harvard Bus. Rev., 1940. Res. Study of business recession of 1947. Dir. W.W. in East, Dir. of Schol.

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HUBER, John Richard, 2623 Harvard N., Seattle 2, Wash. (1934) Univ. of Washington, Dept. of Econ., acting exec. officer, asso. prof., teach.; b. 1909; B.A., 1931, Col. of Wooster; M.A., 1933, Ph.D., 1937, Princeton. Fields 10, 4a. Doc. dis. Analysis of foreign exchange control practices, 1931-36. Pub. "Some comments on monopoly theory in international trade," 1948; "Bilateralism in foreign exchange control," 1941. Proceed. of Pacific Coast Econ. Asso.; "Effects of German clearing agreements and import restrictions on cotton, 1934-39," Southern Econ. Jour., 1940. Dir. W.W. on Pacific Coast.

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HUDSON, Hersel Wendell, 603 Vine St., Kent, Ohio (1929) Kent State Univ., prof., dept. head; b. 1896; B.S., 1920, M.S., 1927, Ph.D., 1933, Illinois. Fields 17d, 1b, 15b. Doc. dis. Economic effects of quality of water with special reference to soap consumption in home (Ill. State Water Survey Div., Circ. No. 13). Pub. "Cost of soap waste for hard-water cities," Engineering News-Record, 1932; "Wasting soap with hard-water cities," Literary Digest, Aug. 6, 1932; "Quality of water and soap consumption," Jour. Amer. Water Works Asso., May, 1933. Dir. W.W. in Amer. Educa.

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HUDSON, Philip Graydon, Univ. of Arizona, Col. of B.P.A., Tucson, Ariz. (1935) Univ. of Arizona, asso. prof., teach.; b. 1909; B.S., 1930, M.S., 1933, Arizona; Ph.D., 1938, Illinois. Fields 1ab, 9, 6. Doc. dis. Use of statistical methods to measure physical volume of production in U.S. Pub. "Technical problems and limitations to construction of indexes," Jour. of Amer. Statis. Asso., June, 1939; "Possibility of maintaining a positive rate of physical production growth," Southern Econ. Jour., Oct., 1941; "Homestead tax exemptions and school finance," Elementary School Jour., Sept., 1940. Dir. W.W. in West.

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- HUNT**, Elgin Fraser, 5404 Kimbark Ave., Chicago 15, Ill. (1933) Chicago City Jr. Col., coord. of soc. sci., dept. head; Northwestern Univ., lecturer in econ.; teach.; A.B., 1917, Oberlin; M.A., 1943, Chicago. Fields 7, 1, 6. Pub. Introduction to social science (co-author) (Macmillan, 1941, 1942); Fundamentals of economics (co-author) (McGraw-Hill, 1948).
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- HUNTER**, John Merlin, 9 Clifton St., Somerville 44, Mass. (1948) Harvard Univ., student; b. 1921; 1939-40, Swarthmore; B.S., 1943, M.S., 1947, Illinois; 1947-48, Harvard. Fields 10, 1a, 7.
- HUNTER**, Kenneth H., 1408 Decatur St., N.W., Washington 11, D.C. (1945) American Univ., prof.; b. 1900; A.B., 1923, Idaho; M.B.A., 1925, Oregon; Ph.D., 1935, American. Fields 7, 8a, 1a. Doc. dis. Investments of 16 largest life insurance companies, 1928-32. Pub. Classification and rating of farm fire risks (U.S. Dept. of Agric., 1941); "War-time prices," in Metal and metal products (Bur. Labor Statis., 1945); Adequacy of banking facilities in Colorado (co-author) (Bur. of Bus. Res., Univ. of Colorado, 1938). Dir. W.W. in Educa.
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- HUNTER**, Mary B., 1221 W. 23rd St., Cedar Falls, Ia. (1947)
- HUNTINGTON**, Charles Clifford, Ohio State Univ., Columbus, Ohio. (1905)
- HUNTINGTON**, Emily H., Univ. of California, 119 South Hall, Berkeley 4, Calif. (1925)
- HUNTLEY**, Arthur G., 1055 Terrace Dr., West Salem, Ore. (1944) Ore. State Highway Dept., personnel dir., govt. serv.; b. 1920; A.B., 1942, Willamette Univ.; M.A., 1943, Duke. Fields 16, 12b, 11a. Pub. "Purpose and method of employee service ratings," Ore. State Employees' Jour., June, 1947.
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clay, Inc., econ.-enrg.; b. 1914; A.B., 1936, De Pauw; 1937-38, American; 1940-42, Northwestern. Fields 11a, 3a, 14a. Res. Theory and practice of production and inventory control.

HURD, (William) Burton, McMaster Univ., Hamilton, Ont., Canada. (1946) McMaster Univ., Dept. of Econ., head, prof.; b. 1894; B.A., 1913, Manitoba; B.A., 1921, M.A., 1925, Oxford Univ. Fields 17, 3, 1. Pub. Origin, birthplace, nationality and language of Canadian people (1929); Agriculture, climate and population of Prairie Provinces of Canada (1931) (King's Printer); Racial origins and nativity of the Canadian people (Dominion Bur. of Statis., 1937). Dir. Dir. of Schol., Canadian W.W.

HURLIN, Ralph G., Russell Sage Found., 130 E. 22nd St., New York, N.Y. (1921)

HURWICZ, Leonid, Iowa State Col., Dept. of Econ. and Soc., Ames, Iowa. (1941)

HUSBAND, William H., 101 Indiana Ave., N.W., Washington 25, D.C. (1927) Federal Savings and Loan Ins. Corp., gen. mgr., govt. serv.; b. 1899; A.B., 1922, Michigan; M.A., 1924, Ph.D., 1928, Ohio State. Fields 8ab, 7, 11ac. Doc. dis. Financing of industrial consolidations. Pub. Modern corporation finance. (1948). Real estate analysis (1948) (Richard D. Irwin). Dir. W.W. in Amer.

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HUTCHINSON, Kenneth Douglass, Boston Univ., Col. of Bus. Admin., 685 Commonwealth Ave., Boston 15, Mass. (1930) Boston Univ., Dept. of Mktg., chmn., prof., teach., edit.; b. 1900; A.B., 1923, Oberlin; M.B.A., 1926, M.A., 1932, Ph.D.,

1939, Harvard. Fields 11b, 1a. Doc. dis. Economic aspects of imitation in consumer style goods. Pub. "Design piracy," Harvard Bus. Rev., 1940; "Traffic-trade correlations—a study in store location," Jour. of Mktg., Oct., 1940. Res. Distribution cost analysis. Dir. W.W. in New England.

HUTNER, Frances Cornwall (Mrs. Simeon), Kenyon Col., Gambier, Ohio. (1944) Teach.; b. 1918; A.B., 1940, Middlebury Col.; M.A., 1942, Columbia. Fields 2a, 1, 12. Res. Business history of a textile monopoly (doc. dis.).

HUTNER, Simeon, Kenyon Col., Gambier, Ohio. (1947) Kenyon Col., asst. prof., teach.; b. 1917; A.B., 1937, Columbia; M.B.A., 1940, New York; M.A., 1946, Princeton. Fields 12, 1ab, 4. Res. Study of the economic problem in war (doc. dis.).

HYDE, Duncan Clark, P.O. Box 1385, Charlottesville, Va. (1921)

HYSON, Charles David, Harvard Univ., Adams House, A-13, Cambridge 38, Mass. (1946) Fed. Res. Bank of Boston, ind. econ.; Harvard Univ., instr. in econ.; Grad. School of Pub. Admin., resident consult.; Harvard Univ., Adams House, asst. sr. tutor; res., teach.; b. 1915; A.B., 1937, St. John's Col.; S.M., 1939, Maryland; Ph.D., 1943, Harvard. Fields 12, 15bde, 10. Doc. dis. Marketing in cranberry industry. Pub. "Monopolistic discrimination in cranberry industry," Q.J.E., May, 1945; "A price policy for agriculture," Nov., 1945, "Maladjustments in wool industry and need for new policy," May, 1947, Jour. of Farm Econ. Res. Economics of marketing; marketing analysis of New England shoe industry. Dir. W.W. in New England.

IKEDA, Roy Hoko, 152 N. Eldorado St., San Mateo, Calif. (1943)

IMPELLIZZERI, Julius Simon, 78 Christopher St., New York 14, N.Y. (1945) New York County Dist. Atty., asst. dist. atty.; b. 1918; A.B., 1940, L.L.B., 1947, Columbia. Fields 8a, 9, 16.

INMAN, Mark Keith, Univ. of Western Ontario, London, Ont., Canada. (1938)

INNES, John Warwick, 66½ Elmwood Pl., Athens, Ohio. (1940) Ohio Univ., asso. prof. of econ., teach.; b. 1908; B.Comm., 1928, Univ. of Toronto; A.M., 1929, Ph.D., 1938, Columbia. Fields 16, 15e, 17a. Doc. dis. Class fertility trends in England and Wales (Princeton Univ. Press, 1938). Pub. "Class birth-rates in England and Wales, 1921-31," Milbank Memorial Fund Quar., Jan., 1941.

INNIS, Harold Adams, Univ. of Toronto, Toronto, Ont., Canada. (1923)

IRONS, Watrous H., Fed. Res. Bank, Dallas 13, Tex. (1945) Fed. Res. Bank of Dallas, vice-pres., res.; b. 1903; B.A., 1925, Pennsylvania State Col.; M.A., 1933, Ph.D., 1937, Pennsylvania. Fields 7, 10, 6. Doc. dis. Study of causes underlying international gold crisis (Feroe Press, 1938). Pub. Commercial credit and collection practice (Ronald Press, 1942)

IRWIN, Harold Speer, Apt. 504, Arlington Village, Arlington, Va. (1928) U.S. Dept. of Agric., agric. econ., res.; b. 1893; B.S., 1917, Iowa State Col.; M.S., 1922, Wisconsin. Pub. "Risk assumption on organized exchanges," A.E.R., June, 1937; "Legal status of futures trading," Ill. Law Jour., June, 1937; "Middlemen's accumulations and expectations in marketing farm produce," Jour. of Farm Econ., Nov., 1947.

IRWIN, William Alexander, Amer. Bankers Asso., 12 E. 36th St., New York 16, N.Y. (1934) Amer. Bankers Asso., econ., dept. head, teach., res.; B.A., 1919, M.A., 1921, Queen's Univ. (Canada); L.L.B., 1934, Washburn Col. School of Law; L.L.D., 1940, Washburn Col. Fields 7, 8, 11. Dir. W.W. in Amer.

ISAAC, Charles Martin, 2745 29th St., N.W., Washington 8, D.C. (1947)

ISAACS, Asher, Univ. of Pittsburgh, Pittsburgh 13, Pa. (1934) Univ. of Pittsburgh, prof. of econ., teach., res.; b. 1902; A.B., 1923, A.M., 1924, Cincinnati; A.M., 1926, Ph.D., 1933, Harvard. Fields 10, 1, 14. Doc. dis. Principles of comparative

advantage: a study in verification. Pub. International trade, tariff and commercial policies (Irwin, 1948); International commodity agreements (Philos. Lib., 1948); "Postwar exports and imports," Univ. of Pittsburgh, 1945. Res. Practice of foreign trade. Dir. W.W. in East, in Amer. Educa.

ISARD, Walter, 11 Shady Hill Sq., Cambridge 38, Mass. (1944) Tufts Col., asst. prof., teach., res.; b. 1919; B.A., 1939, Temple; M.A., 1941, Ph.D., 1943, Harvard; 1941-42, Chicago. Fields 1a, 2a, 15d. Doc. dis. Economic dynamics of transport technology. Pub. "Some economic implications of atomic energy," Feb., 1948, "Transport development and building cycles," Nov., 1942, Q.J.E., "Some locational factors in iron and steel industry," J.P.E., June, 1948. Res. General theory of location and space economy; economics of atomic energy; metropolitan-urban site selection.

ISBISTER, Claude Malcolm, 19 Madawaska Dr., Ottawa, Ont., Canada. (1946) Dominion of Canada, asst. dom. statis., govt. serv.; b. 1914; B.A., 1934, Manitoba; 1938-39, Toronto; A.M., 1941, Ph.D., 1943, Harvard. Fields 5, 3c, 1a. Doc. dis. Consumer behavior: interrelated demands.

ISCHBOLDIN AL BAKRI, Boris, St. Louis Univ., School of Com. and Fin., St. Louis, Mo. (1946)

ISE, John, 1208 Mississippi St., Lawrence, Kan. (1911) Univ. of Kansas, prof., teach., res.; b. 1885; Mus.B., 1908, A.B., 1910, LL.B., 1911, Kansas; A.M., 1912, Ph.D., 1914, Harvard. Fields 1a, 15ab, 4a. Doc. dis. U.S. forest policy (Yale Univ. Press, 1920). Pub. U.S. oil policy (Yale Univ. Press, 1926); Sod and stubble: the story of a Kansas homestead (Wilson-Erickson, 1936); Economics (Harper, 1946). Res. U.S. park policy. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

ISRAESEN, Vernon L., P.O. Box 192, Logan, Utah. (1943)

IVERSEN, Lothar Iver, 325 W. Lafayette St., Fayetteville, Ark. (1948) Univ. of Arkansas, asso. prof., teach.; b. 1905; B.A., 1927, Wisconsin; M.A., 1940, Iowa. Fields 7, 8ab, 3a. Res. Historical and analytical study of bank supervision in U.S. (doc. dis., Univ. of Iowa).

IVOR, David, Univ. of Western Ontario, Dept. of Econ., London, Ont., Canada. (1947) Univ. of Western Ontario, asso. prof., teach., res.; b. 1911; B.A., 1933, M.A., 1939, Univ. of Western Ontario; Ph.D., 1947, London School of Econ. Fields 9, 1a. Doc. dis. Principles of federal public finance.

IVORY, Austin, 156 Washington St., Weymouth 88, Mass. (1945) Nat. Econ. Bd., U.S. Army Military Govt. in Korea, statis., govt. serv.; b. 1913; A.B., 1934, M.B.A., 1936, 1945-46, Harvard. Fields 12b, 11a, 10.

JACK, Lawrence B., B. C. Electric Railway Co., Hastings and Carrall Sts., Vancouver, B.C., Canada. (1945)

*JACKENDOFF, Nathaniel, D-32 Stadium Ter., Champaign, Ill. (1947) Univ. of Illinois, fellow in econ., teach. asst., res., teach.; b. 1919; B.S., 1938, City of New York; M.A., 1939, Illinois. Fields 10, 7, 1. Res. Mexican problems of international economic adjustment (doc. dis.).

†JACKMAN, William T., 171 St. Leonards Ave., Toronto 12, Ont., Canada. (1934) Univ. of Toronto, prof. emeritus; b. 1871; attended Univ. of Toronto, Pennsylvania, London, Harvard Univ. Field 13. Pub. Development of transportation in modern England; Economics of transportation; Economic principles of transportation.

JACKSON, Charles Donald, 407 Rosemary St., Chevy Chase 15, Md. (1923) Dept. of Agric., Fats and Oils Br., Production and Mktg. Admin., res., govt. serv.; b. 1895; B.S., M.B.A., Northwestern; M.A., Harvard. Fields 14, 11, 9.

JACKSON, Dugald C., 5 Mercer Circle, Cambridge, Mass. (1923)

JACKSON, Frederic Albert, Morgan State Col., Baltimore 12, Md. (1944) Morgan State Col., prof., each., res.; b. 1903; A.B., 1924, Atlanta; M.B.A., 1930, Ph.D., 1942, New York. Fields 7, 6, 3. Res.

Need for return to a gold standard.

JACKSON, Jacob Hugh, P.O. Box 2428, Stanford University, Calif. (1917) Stanford Univ., Grad. School of Bus., dean, prof., teach., res., bus.; b. 1891; A.B., 1912, LL.D., 1930, Simpson Col.; M.B.A., 1920, Harvard. Field 11c. Pub. Auditing problems (Ronald Press, 1929); Accounting principles (Haidley, Los Angeles, 1942); The comptroller: his functions and organization (Harvard Univ. Press, 1948). Dir. W.W. in Amer., Lead. in Educa.

JACKSON, James Roy, R.F.D. 2, Wentzville, Mo. (1927) Reinholdt & Gardner, invest. consult., res., bus.; b. 1892; B.Ped., 1916, Central State Teach. Col. (Mo.); Ph.B., 1923, A.M., 1924, Ph.D., 1927, Chicago. Fields 8b, 7, 11. Doc. dis. Statistical comparison of common and preferred stocks as to investment value. Pub. "Stocks as investments," Jour. of Bus., Univ. of Chicago Press, July, Oct., 1928; Land of the free (St. Louis, Mo., Rotary Club, Jan., 1948). Res. Variations in speculative sentiment as a forerunner of impending moves in securities markets and in business conditions.

JACKSON, Kathleen Condit, Hollins Col., Hollins College, Va. (1927) Hollins Col., Dept. of Econ. and Soc., dept. head, asso. prof., teach.; b. 1902; A.B., 1924, Vassar; A.M., 1926, Stanford; 1930-31, 1932-33, Columbia. Fields 9, 7, 8.

JACOBS, Arthur Theodore, 9 Stafford Pl., Larchmont, N.Y. (1938) United Serv. for New Americans, dir. of budget and res., res., edit., govt. serv.; b. 1912; B.A., M.A., 1935, Wisconsin; 1938-40, Michigan. Fields 16, 17ab, 12b. Pub. How to bargain with labor unions (1948), Manual of industrial relations (1947), How to use handicapped workers (1947) (Nat. Foremen's Inst.). Res. Collective bargaining: theory vs. practice (doc. dis., Univ. of Michigan).

JACOBS, Clifford D., State Col. of Washington, Pullman, Wash. (1930)

JACOBS, George Robert, 3517 Martha Custis Drive, Alexandria, Va. (1942) Dept. of State, div. asst., econ., govt. serv.; b. 1919; A.B., 1940, Harvard; 1940-41, American. Fields 10, 6, 7.

JACOBSEN, Arthur Daniel, Eastern New Mexico Col., School of Bus. and Econ., Portales, N.M. (1945) Eastern New Mexico Col., School of Bus. and Econ., chmn., dean, teach.; b. 1894; A.B., 1917, Redlands; A.M., 1918, Harvard; 1919, Stanford; 1919, 1920, 1939, summers, Southern California. Fields 11ab, 8, 12. Dir. of Amer. Schol.

JACOBSON, Katharine, 1020 19th St., N.W., Washington 6, D.C. (1947)

JACOBSON, Solomon, 3626 Kings Highway, Brooklyn, N.Y. (1943)

JACOBSTEIN, Meyer, 2651 16th St., N.W., Washington, D.C. (1944) Lib. of Cong., legis. ref. serv., res. coun.; b. 1880; A.B., 1904, M.A., 1905, Ph.D., 1907, Columbia. Fields 16, 7, 12. Dir. W.W. in Amer.

JACOBY, Neil Herman, Univ. of California, Col. of Bus. Admin., Los Angeles 24, Calif. (1933) Univ. of California, Col. of Bus. Admin., dean, prof., teach., res.; b. 1909; A.B., 1930, Univ. of Saskatchewan; Ph.D., 1938, Chicago. Fields 8a, 7, 11a. Doc. dis. Economics of retail sales taxation (Com. Clearing House, Chicago, 1938). Pub. Term lending to business (1943), Business finance and banking (1947), Accounts receivable financing (1945) (all with R. J. Saulnier) (Nat. Bur. of Econ. Res.). Res. Financial policies of business enterprises. Dir. W.W. in Amer.

JAFFE, Lawrence J., 12 Chester Pl., Bronxville, N.Y. (1948)

JAFFE, Sidney A., 1330 Quincy St., N.W., Washington 11, D.C. (1948) Housing and Home Finance Agency, econ. statis., govt. serv., res.; b. 1916; B.A., 1938, 1938-41, 1947, George Washington; 1933-36, New Jersey State Teach. Col. Fields 14b, 15e. Res. Estimated capital requirements, 1946-60.

JAFFE, William, Northwestern Univ., Evanston, Ill. (1925)

JAFFY, Florence Irene, 2131 Third St., N.E., Washington, D.C. (1947)

JAMES, Clifford Lester, 1687 Guilford Rd., Columbus, Ohio. (1930) Ohio State Univ., prof., teach., res.; b. 1903; B.A., 1925, M.A., 1926, Ohio State; Ph.D., 1930, Harvard. Fields 10, 1a, 3. Doc. dis. Australian tariff policy, 1901-26. Pub. Industrial concentration and tariffs (U.S. Govt. Prtg. Office, 1940); Outline of principles of economics (Barnes and Noble, 1934, rev. 1948); "Comments on institutional economics," A.E.R., 1937. Res. Effects of U.S. tariff reductions on domestic industrial concentration and monopoly.

JAMES, Frank Cyril, 1200 Pine Ave., Montreal 2, Que., Canada. (1934) McGill Univ., principal, vice-chancellor, prof. of polit. econ., teach., govt. serv.; b. 1903; B. Com., 1923, London School of Econ.; M.A., 1924, Ph.D., 1926, Pennsylvania; D.C.L. (Hon.), Bishops; LL.D., Queen's Univ., Syracuse, Ursinus Col.; Docteur de l'Université de Montreal. Fields 7, 6, 2a. Doc. dis. Economic fluctuations in shipping and shipbuilding industry. Pub. Economics of money, credit, and banking (Ronald Press, 1930, 1935, 1940); Growth of Chicago banks (Harper, 1938); England today (P. S. King, London, 1932). Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.

JAMES, Herman Brooks, North Carolina State Col., Raleigh, N.C. (1948) North Carolina State Col., prof. of agric. econ., res., teach.; b. 1912; B.S., 1932, M.S., 1940, North Carolina State Col.; 1946-47, Duke. Fields 15b, lab., 4a. Pub. Joint author, "Farm mechanization," Sept., 1946. "Farm mechanization in the Piedmont," Aug., 1947, N.C. Agric. Exp. Sta.; "Selecting a farm in North Carolina," June, 1945, N.C. Ext. Serv. Res. Farm mechanization, farm organization and management, cost of producing farm products in North Carolina; mechanization in relation to adjustments in agriculture in Northern Tide-Water Area of North Carolina (doc. dis.).

JAMES, Kenneth V., 4938 Adams St., Kansas City 3, Kan. (1941) Dept. of Com., Reg. Office, World Trade Unit, chief, govt. serv.; b. 1909; B.S.C., B.A., 1931, Alabama; LL.B., 1934, Jones Univ. Fields 10, 13b, 15d.

JAMES, Lee Morton, Southern Forest Exp. Sta., 1008 Fed. Bldg., New Orleans 12, La. (1945) U.S. Forest Serv., forest econ., res.; b. 1916; B.S., 1937, Pennsylvania State Col.; M.F., 1943, Ph.D., 1945, Michigan. Field 15b. Doc. dis. Analysis of factors influencing lumber consumption in U.S. (Jour. of For., July, 1946). Pub. Forestry in the South (Southern Asso. of Sci. and Ind., 1948); Logging and milling studies in Southern Appalachian region (U.S. For. Serv., N.C., 1946); "Restrictive agreements and practices in lumber industry, 1880-1939," Southern Econ. Jour., Oct. 1946. Res. Forest land ownership and management in central Mississippi.

JAMESON, Mary Ethel, Nat. Ind. Conf. Bd., 247 Park Ave., New York, N.Y. (1936)

JAMISON, Charles Laselle, 108 Tappan Hall, Ann Arbor, Mich. (1923)

JANCAUSKAS, Raymond Casimir, Xavier High School, 30 W. 16th St., New York 11, N.Y. (1947) Columbia Univ., New School of Soc. Res., student; Society of Jesus, priest; b. 1915; 1932-36, Xavier; A.B., 1937, 1942-46, Loyola; M.A., 1940, St. Louis. Fields 10, 1a, 6.

JANSSEN, Hans, 104 E. 15th St., Yankton, S.D. (1938) Yankton Col., asso. prof., dept. head, teach.; b. 1896; B.A., 1935, M.A., 1936, Ph.D., 1942, Pennsylvania State Col. Fields 11, 12, 16. Doc. dis. Governmental price policies in Third Reich (Univ. Microfilms, Ann Arbor, 1943). Pub. "William Lee's stocking frame," Melland Textile Monthly, 1929.

JANSSON, Roger Edward, 731 Melrose St., Chicago 13, Ill. (1942)

JARBOE, Mrs. P. Warring, 411 34th St., N.W., Washington 19, D.C. (1947)

JARRETT, James McPherson, Bur. of Int. Rev. Bus. and Ind. Res. Div., Washington 25, D.C. (1928) Treas. Dept., Bur. of Int. Rev., Bus. and Ind. Res. Div., asst. head, govt. serv.; b. 1905; B.S., 1926, Col. of Wooster; M.A., 1928, Ph.D., 1934, Princeton; 1936-37, George Washington.

Fields 9, 15abcd, 10. Doc. dis. International double taxation of corporation income. Pub. Grapes, raisins, and wines—a survey of world production and trade (co-author) (Govt. Prtg. Office, 1939); U.S.-Belgo-Luxemburg trade agreement, a digest of trade data (co-author) (U.S. Tariff Com., 1935); "The right of assembly" (co-author), New York Univ. Law Quar. Rev., 1931.

JAWORSKI, Stephen, 112-50 78th Ave., Forest Hills, N.Y. (1946)

JEFFERIS, Raymond Palmer, Jr., 10 Mulberry Lane, Media, Del. Co., Pa. (1939)

JEFFERY, Stuart, High St. S., Motueka, N.Z. (1943)

JEKEL, Oscar Henry, 117 W. Woodbine Ave., Kirkwood, St. Louis 22, Mo. (1934) Reliable Life Ins. Co., vice-pres., actuary, bus.; b. 1903; B.A., 1925, Michigan; M.A., 1934, Washington Univ. Fields 8, 1ac, 3a.

JENKINS, David Ross, 3500 39th St., N.W., Washington 16, D.C. (1944)

JENKINS, Lloyd Arthur, State Col. of Washington, School of Econ. and Bus., Pullman, Wash. (1941) Washington State Col., asst. prof., teach.; b. 1906; 1924-25, Washington State Col.; 1929, Centralia Washington Jr. Col.; B.A., 1931, M.A., 1942, Univ. of Washington; 1948, summer, Texas. Fields 16, 1, 7. Pub. State of Washington, Small Loan Act of 1941 (Consumer Credit Inst. of Amer., 1942). Res. Life of Uriah Smith Stephens, founder of Knights of Labor.

JENKINS, Shirley, 3500 39th St., N.W., Washington 16, D.C. (1945) United Nations, Dept. of Sec. Coun. Affairs, Asia and Pacific Affairs Section, res., edit.; b. 1919; B.A., 1938, Brooklyn Col.; M.A., 1939, 1942-43, Columbia; summer, 1947, Oxford. Fields 10, 17b, 3a. Pub. American economic policy toward Philippine Republic (1948), Our Far Eastern record: the war years (1946), Trading with Asia (1946) (Inst. of Pacific Rela.). Res. Far Eastern questions of interest to U.N. Security Council.

JENKS, Leland Hamilton, 18 Weston Rd., Wellesley, Mass. (1929) Wellesley Col., prof. of soc., dept. head, teach.; b. 1892; A.B., 1913, Ottawa Univ.; A.M., 1914, Kansas; 1920-21, London School of Econ.; Ph.D., 1927, Columbia. Fields 2a, 10. Doc. dis. Migration of British capital to 1875 (Knopf, 1927). Pub. Our Cuban colony (Viking, 1928); "Railroads as a force in American development," May, 1944, "British experience with foreign investments," Dec., 1944, Jour. of Econ. Hist. Res. Historical sociology of entrepreneurship; migration of British capital, 1875-1914. Dir. of Schol., Lead. in Educa.

JENNEMAN, Walter Maxim, Deep Rock Oil Corp., P.O. Box 1031, Tulsa 2, Okla. (1944) Deep Rock Oil Corp., exec. asst., ind. engr., dept. head, bus., res.; b. 1894; 1919, Northwestern. Fields 11ac, 14, 10. Res. Industrial management for petroleum industry; sound absorption.

JENNINGS, Henrietta Cooper, Mansfield Ave., Norton, Mass. (1927) Wheaton Col., prof., dept. head, teach., res.; b. 1899; A.B., 1922, M.A., 1923, Ph.D., 1927, Bryn Mawr; 1925-26, London School of Econ. Fields 1b, 2a, 7. Doc. dis. Political theory of state-supported elementary education in England, 1750-1833. Pub. Consumer in commercial banking (Consumer Credit Inst. of Amer., 1939). Res. British socialism in early nineteenth century; index of Cobbett's Political Register. Dir. Dir. of Schol., W.W. in East, in Mass., in Pa., American Women's W.W.

JENNINGS, W. W., 1336 Fontaine Rd., Lexington, Ky. (1923)

JENSEN, Carl P. N., 3723 Lyons Lane, Parkfairfax, Alexandria, Va. (1945)

JENSEN, Finn Bjorn, Lehigh Univ., Bethlehem, Pa. (1948) Lehigh Univ., asso. prof., teach.; A.B., 1934, M.A., 1935, Ph.D., 1940, Southern California. Fields 10, 4a, 16.

JENSEN, Vernon H., Cornell Univ., New York State School of Ind. and Labor Rela., Ithaca, N.Y. (1941) Cornell Univ., New York State School of Ind. and Labor Rela., prof. of ind. rela., teach.,

res., edit.; b. 1907; B.S., 1932, Brigham Young; Ph.D., 1939, California. Fields 16, 2a, 4. Doc. dis. Labor relations in northwest lumber industry. Pub. Lumber and labor (Farrar and Rinehart, 1945). Res. History of labor relations in non-ferrous metals industry.

JEREMIAH, David B., Logan Hall, 36th and Woodland Ave., Philadelphia 4, Pa. (1941) Univ. of Pennsylvania, asso. prof., teach., res.; b. 1889; B.S., in Econ., 1915, M.A., 1917, Ph.D., 1930, Pennsylvania. Fields 8ab, 7, 11c. Doc. dis. Causes and prevention of corporate bond default. Pub. Business corporation (co-author) (Appleton, 1941); "Financial recovery of Kraft industry," *Annals of Amcr. Acad. of Polit. and Soc. Sci.*, 1937.

JESNESS, Oscar Bernard, Univ. Farm, St. Paul 1, Minn. (1920) Univ. of Minnesota, Div. of Agric. Econ., chief, teach., res.; b. 1889; B.S.A., 1913, M.S., 1924, Ph.D., 1928, Minnesota. Fields 15b, 10. Doc. dis. Marketing of tobacco (parts pub in Ky. Agric. Exp. Sta. Bul. 287-288, 1928). Pub. Co-operative marketing of farm products (Lippincott, 1923); American farmer and export market (with A. A. Dowell) (1934), Program for land use in northern Minnesota (with others) (1935) (Univ. of Minnesota Press). Dir. W.W. in Amer., Lead. in Educa.

JESSE, Harold Clardy, 20 Exchange Pl., New York 5, N.Y. (1938) Debevoise, Plimpton & McLean, asso., lawyer; b. 1898; LL.B., 1928, New York Law School. Fields 5, 9, 8b. Dir. W.W. in East, in New York.

JEUCK, John Edward, Univ. of Chicago, School of Bus., Chicago 37, Ill. (1943) Univ. of Chicago, School of Bus., asst. prof., teach., res.; b. 1916; A.B., 1937, M.B.A., 1938, Chicago. Fields 11h, 16, 1a. Pub. "On nature of marketing costs," *Jour. of Bus.*, Jan., 1943. Res. History of Sears, Roebuck and Co.

JEWETT, Roy Byron, 138 Fairview Ave., N., Minneapolis 12, Minn. (1943) Int. Milling Co., admin. asst., bus.; b. 1916; B.B.A., 1937, Minnesota. Fields 15b, 11, 6.

JÉZE, Gaston Paul Amédée, 126 Blvd. du Montparnasse, Paris 14, France. (1926) Faculté de Droit de Paris, prof. honoraire; Institut International de Droit Public, pres.; b. 1869; Dr. honoris causa de Buenos Aires, Bruxelles, Zurich, et Salonique. Fields 9, 7, 10. Doc. dis. Les lois agraires à Rome—le retrait d'indivision (1892). Pub. Directeur de la Revue de Sciences et de Legislation Financières et de la Revue du Droit Public et de la Science Politique; Cours de science des finances et de législation financière française (enlarged from Cours élémentaire, Paris, 6th ed., 1922); Les dépenses de guerre de la France (Carnegie Endow. for Int. Peace, Paris, New Haven, 1926); Les principes généraux du droit administratif, 1925-36. Dir. Int. W.W.

JOACHIM, Jerome, 3212 S. Grove Ave., Berwyn, Ill. (1944)

JOFFE, Boris Matthewson, Joint Distr. Com., Suite 800, 270 Madison Ave., New York 16, N.Y. (1943)

JOHNS, Vernon O., Box 659, Blacksburg, Va. (1946)

JOHNSON, Alvin Saunders, New School for Soc. Res., 66 W. 12th St., New York, N.Y. (1927)

JOHNSON, Byron Lindberg, Univ. of Denver, Denver 10, Colo. (1944) Univ. of Denver, asst. prof., teach.; b. 1917; B.A., 1938, M.A., 1940, Ph.D., 1947, Wisconsin. Fields 9, 13ab, 17bd. Doc. dis. Principles of equalization applied to allocation of grants-in-aid (Bur. of Res. and Statis., Soc. Sec. Admin., Sept., 1947). Pub. "Intrastate equalization in financing public assistance," *Soc. Sec. Bul.*, June, 1945; "Denver City sales tax," *Nat. Tax Jour.*, June, 1948. Res. Estimates of personal income payments by counties, Colorado, 1945.

JOHNSON, D. Gale, Univ. of Chicago, Dept. of Econ., Chicago 37, Ill. (1947) Univ. of Chicago, asst. prof., res., teach.; b. 1916; B.S., 1938, Iowa State Col.; 1939-41, Chicago; M.S., 1939, Wisconsin; Ph.D., 1945, Iowa State Col. Fields 15b, 10, 1a.

Doc. dis. Forward prices for agriculture (Univ. of Chicago Press, 1947). Pub. "Contribution of price policy to income and resource problems in agriculture," *Nov.*, 1944, "A price policy for agriculture," *Nov.*, 1945, "Use of econometric models in study of agricultural policy," *Feb.*, 1948, *Jour. of Farm Econ. Res.* Inconsistencies of agricultural and international trade policy.

JOHNSON, Edwin Charles, Farm Credit Admin., Washington 25, D.C. (1925) Farm Credit Admin., asst. deputy land bank commissioner, govt. serv.; b. 1897; B.S., 1920, Ph.D., 1929, Minnesota. Fields 15ab, 7, 4c. Doc. dis. Agricultural credit situation in Kentucky. Pub. "Agricultural credit," U.S. Dept. of Agric. Yearbook, 1940; Farm mortgage foreclosures in Minnesota (Bul. 293, 1932), Farm real estate values in Minnesota (Bul. 307, 1934) (Minn. Agric. Exp. Sta.).

JOHNSON, Emory Richard, Univ. of Pennsylvania, Philadelphia 4, Pa. (1893) Univ. of Pennsylvania, prof. emeritus of transp. and com.; b. 1864; B.L., 1888, M.L., 1891, Wisconsin; Ph.D., 1893, S.D. (Hon.), 1913, Pennsylvania. Field 13b. Doc. dis. Inland waterways, their relation to transportation (Amer. Acad. of Polit. and Soc. Sci., 1893). Pub. History of domestic and foreign commerce of U.S. (collab.) (Carnegie Inst., Washington, D.C., 1916); Government regulation of railroads (1938). Transport: facilities, services, policies (1947) (Appleton-Century). Res. Transportation policies, regarding government aid and regulation.

JOHNSON, Ernest Amos, 9 College Campus, Lake Forest, Ill. (1925) Lake Forest Col., pres.; b. 1895; A.B., 1918, Colorado Col.; M.S., 1924, Denver; summers, 1925, 1926, 1928, Chicago; Ph.D., 1933, Northwestern. Fields 7, 1ab, 8. Doc. dis. Gold policy of Federal Reserve System; 1914-24. Pub. "Record of long term real estate bonds," *Feb.*, 1936, "Record of real estate bonds—by cities of issue," *May*, 1936, "Records of real estate bonds—by cities of issue," *May*, 1936, "Record of real estate bonds—by types of property," *June*, 1939, *Jour. of Land and Pub. Util. Econ.* Dir. W.W. in Amer., Lead. in Educa.

JOHNSON, Everett Herschel, 3939 Pennsylvania Ave., S.E., Washington 20, D.C. (1941) George Washington Univ., asso. prof., teach., res.; b. 1903; A.B., 1926, DePauw; A.M., 1929, Lehigh; Ph.D., 1942, Michigan. Fields 3, 8, 11. Doc. dis. Time factor in correlation with reference to certain forecasting problems in business.

JOHNSON, G. Griffith, Jr., 811 Crescent Dr., Alexandria, Va. (1939)

JOHNSON, Homer H., 1669 Union Trust Bldg., Cleveland, Ohio. (1913)

JOHNSON, Howard Wesley, 7800 Exchange Ave., Chicago 49, Ill. (1947) R. N. McMurry and Co., staff consult., bus.; b. 1922; M.A., 1947, Chicago. Fields 16, 9, 1a.

JOHNSON, Jack, North Texas State Teach. Col., Grad. Div., Denton, Tex. (1945)

JOHNSON, Keith Whitaker, 2319 Roanoke Ave., Dallas 9, Tex. (1939) Fed. Res. Bank of Dallas, ind. econ., res., edit.; b. 1912; A.B., 1934, Kansas; 1934-35, Cornell Univ.; M.A., 1937, Ph.D., 1943, Duke. Fields 6, 14b, 15cde. Doc. dis. Racial division of labor and American Negro. Pub. "Residential vacancy in wartime U.S.," *Survey of Cur. Bus.*, Dec., 1942; *Survival of the West* (Univ. of Kansas, 1934). Res. Construction cycle; relation of construction activity to the economy; relative importance of race, sex, age, location and other factors in determination of distribution of labor force by occupations.

JOHNSON, Mathews Martin, 1600 W. Erie Ave., Philadelphia 40, Pa. (1943)

JOHNSON, Milton Orestes, Marine Nat. Exch. Bank, Milwaukee 1, Wis. (1945) Marine Nat. Exch. Bank, vice-pres.; b. 1894; A.B., 1918, St. Olaf Col.; M.B.A., 1922, Northwestern. Fields 8, 6, 7.

JOHNSON, Oliver Ray, Univ. of Missouri, 220 Mumford Hall, Columbia, Mo. (1922) Univ. of Missouri, prof. of agric. econ., dept. head, teach.,

res.; b. 1887; B.S., 1910, M.A., 1912, Missouri; 1925-26 Cornell Univ. Fields 15ab, 12, 2. Pub. Sharing earnings and management to hold workers on farms (Circular 272, 1943). Some considerations in buying a farm (Circular 281, 1943). Establishing discharged service men and war workers on farms (Circular 293, 1944) (Mo. Agric. Exp. Sta.). Res. Farm labor supply in sample areas in Missouri in relation to economic circumstances surrounding farm worker.

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JOHNSON, Robert Willard, 230 N. Mayflower Rd., Lake Forest, Ill. (1947) Southwestern Univ., asst. prof., teach.; b. 1921; 1939-42, Oberlin Col.; M.B.A., 1946, Harvard; 1946-48, Northwestern. Fields 8b, 7, 11.

JOHNSON, Sherman Ellsworth, 118 N. Jackson St., Arlington, Va. (1932) Dept. of Agric., Bur. of Agric. Econ., asst. chief, govt. serv., res.; b. 1896; B.S., 1924, M.S., 1926, Minnesota; Ph.D., 1938, Harvard. Fields 15ab, 1, 7. Doc. dis. Wheat under Agricultural Adjustment Act (Brookings Inst., 1934). Pub. Managing a farm (joint author) (D. Van Nostrand, 1946); Changes in farming (Dept. of Agric., Bur. of Agric. Econ., 1946); Economic analysis of production problems in Bitter Root Valley (Mont. Agric. Exp. Sta. Bul. 220, 1929). Res. Technological development and cost reduction in agriculture. Dir. Dir. of Schol., W.W. in East.

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JOHNSON, Walter E., Box 68, Palos Heights, Ill. (1946)

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JOHNSON, William Summers, 3920 4th St., N., Arlington, Va. (1947)

JOHNSTON, Richard H., Lib., Bur. of Railway Econ., Washington, D.C. (1910)

JOLLEY, Elmer Otis, Jr., 16 Canterbury Rd., Winchester, Mass. (1941) Berke Brothers Distilleries, Inc., exec. vice-pres., bus.; b. 1913; B.S., 1935, M.B.A., 1941, Northwestern. Fields 8ab, 11a, 1a.

JOME, Hiram Leonard, Greencastle, Ind. (1924) DePauw Univ., prof., dept. head, teach., res.; b. 1895; A.B., 1918, St. Olaf Col.; M.A., 1920, Ph.D., 1925, Wisconsin. Fields 7, 8ab, 1b. Doc. dis. Radio industry in its economic and legal aspects (A. W. Shaw, 1925). Pub. "Property in air as affected by airplane and radio," Jour. of Land and Pub. Util. Econ., 1928; "The new schoolmaster in finance," Michigan Law Rev., 1942; Corporation finance (Holt, 1948). Res. Corporation and instrumentality rule. Dir. W.W. in Amer.

JONES, Alvin Hamilton, 4014 Danneli St., New Orleans 15, La. (1938) New Orleans Urban League, exec. dir., res.; b. 1905; A.B., 1926, Columbia; M.A., 1938, Univ. of Pennsylvania, Wharton

School. Fields 1a, 3a, 8a. Doc. dis. International economic co-operation (Univ. of Pennsylvania Press, 1939). Pub. Labor on New Orleans waterfront (Carnegie Corp., 1940); White collar survey for the state of Louisiana (Dept. of Inter., 1936). Res. Economic survey of economic conditions in New Orleans.

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JONES, Herschel Federman, 220 5th Ave., S.E., Beaverton, Ore. (1938) Dept. of Interior, Bonneville Power Admin., Br. of Load Estimating, chief; Ore. State System of Higher Educa., Portland Ext. Cen., instr.; govt. serv., teach.; b. 1910; 1926-29, Hastings Col.; A.B., 1931, Antioch Col.; M.A., 1937, Nebraska; Ph.D., 1942, Wisconsin. Fields 13a, 2a, 15a. Doc. dis. Integration of electric utilities in U.S. Pub. Municipal electric and water systems in Nebraska (with C. E. McNeill) (1938), Nebraska's electric power development in relation to municipal service (with C. E. McNeill) (1939) (Univ. of Nebraska); "Relation of large scale production to certain costs of electric utilities in U.S.," Jour. of Land and Pub. Util. Econ., Feb., 1942.

****JONES, Homer**, 3067 Ordway St., N.W., Washington 8, D.C. (1941) Com. for Econ. Dev., econ., res.; b. 1906; 1923-25, Coe Col.; B.A., 1927, M.A., 1928, Iowa; 1928-29, 1933-34, Chicago. Fields 7, 8, 9. Pub. "Implications of federal fiscal policy," Financing the war (Tax Inst., 1942); "Investment prospects," Jour. of Fin., Apr., 1947; "Insurance of bank deposits in U.S.," Econ. Jour., Dec., 1938. Res. Facilitating flow of saving into private investment.

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JONES, John Paul, 200 Forest Ave., Vermillion, S.D. (1946)

JONES, Martin Vincent, 6922 Paxton Ave., Chicago 49, Ill. (1943) U.S. Army, Quartermaster's Corps, Ind. Mobil. Br., econ., govt. serv., res.; b. 1918; M.B.A., 1940, Ph.D., 1944, Chicago. Fields 12, 16, 6. Doc. dis. Secular trends and idle resources (Univ. of Chicago Press, 1944). Pub. Renovated capitalism (Univ. of Chicago Press, 1945); "Secular and cyclical saving propensities," Jan., 1944, "Wage rate reductions as a stimulus to recovery," Jan., 1941, Jour. of Bus.

JONES, Montfort, Univ. of Pittsburgh, Pittsburgh 13, Pa. (1922) Univ. of Pittsburgh, prof. of fin., teach.; b. 1890; 1908-10, Beloit Col.; B.A., 1912, M.A., 1914, Wisconsin. Fields 7, 8ab, 9. Dir. W.W. in Amer.

JONES, Ralph Coughenour, Yale Univ., 302 Sheffield Hall, New Haven, Conn. (1924) Yale Univ., asso. prof., teach., res.; b. 1897; B.S., 1922, M.S., 1923, Illinois; Ph.D., 1929, Yale. Fields 11c, 8a, 5. Doc. dis. Consolidated returns in federal taxation. Pub. Allocation accounting for taxable

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*JONES, Ronald Wade, Dept. of Agric., Washington 25, D.C. (1948) Dept. of Agric., Bur. of Agric. Econ., sr. agric. econ. res.; b. 1916; B.S., 1937, M.A., 1941, Missouri; 1947-48, Chicago. Fields 15b, 1a, 3c. Pub. Historical look to the future (Dept. of Agric., Bur. of Agric. Econ., Apr. 1946). Res. Production costs as criteria of resource allocation and policy.

JONES, Russell Rankin, 34 Grant St., Greensburg, Pa. (1947) Pa. Econ. League, Westmoreland Co. Br., exec. secy., res., edit., bus.; b. 1900; B.S., 1941, M.A., 1946, Pittsburgh; 1918-19, Miami Univ.; 1919-20 Ohio State. Fields 9, 11ac, 1. Res. Financing local education.

JONES, Stacy V., R.F.D. 2, Falls Church, Va. (1946)

JONES, Thatcher C., 303 Knollwood Ave., Douglaston, L.I., N.Y. (1935)

JONES, Walter Kiger, 138 Carroll Ave., Takoma Park 12, Md. (1943) U.S. Tariff Com., commodity spec., govt. serv.; b. 1888; A.B., 1940, George Washington; B.C.S., 1924, M.C.S., 1925, Southwestern. Fields 6, 10, 14a.

JONES, William Godfrey, 5123 24th St., North Arlington, Va. (1941)

JONES, William Orville, Food Res. Inst., Stanford University, Calif. (1941) Stanford Univ., Food Res. Inst., asst. econ., asst. prof.; res., teach.; b. 1910; A.B., 1932, Nebraska; Ph.D., 1947, Stanford. Fields 3c, 1a, 2a. Doc. dis. Salinas Valley: its agricultural development, 1920-40. Res. Manioc; American agricultural policy; changing structure of American agriculture.

JORDAN, Garrett Lowell, Univ. of Illinois, 302 Mumford Hall, Urbana, Ill. (1939) Univ. of Illinois, prof., teach., res.; b. 1896; 1914-15, Manchester Col.; 1916, Indiana State Teach. Col.; B.S., 1922, Purdue; M.A., 1929, Ph.D., 1933, Illinois. Fields 15b, 6, 3a. Doc. dis. Changing food habits in relation to land utilization in U.S. Res. Prices of Illinois farm products. Dir. W.W. in Amer.

JORGENSEN, G. L., 72 W. Adams St., Room 1548, Chicago 90, Ill. (1944)

JOSEPH, Sister, D'Youville Col., Buffalo, N.Y. (1943)

JOSEPH, Sister M. Edward, Saint Mary's Col., Notre Dame, Holy Cross, Ind. (1939)

*JOSEPH, Myron Lawrence, Carnegie Inst. of Tech., Pittsburgh 13, Pa. (1946) Carnegie Inst. of Tech., instr., teach.; b. 1922; B.S., 1942, City of New York; M.A., 1947, Columbia; 1947-48, Wisconsin. Fields 16, 1ab, 5. Res. Effects of Taft-Hartley Law on industrial relations in Pittsburgh area.

*JOSHI, T. M., Fergusson Col., Poona 4, India. (1947)

JOYCE, Robert K., 524 Howth Rd., Raheny, Co. Dublin, Ireland. (1946)

JUCIUS, Michael James, Ohio State Univ., Hagerty Hall, Columbus 10, Ohio. (1934) Ohio State Univ., prof., teach., res., bus.; b. 1907; Ph.B., 1931, A.M., 1932, Ph.D., 1942, Chicago. Fields 16, 11a, 12a. Doc. dis. Uniform cost accounting (Journ. of Bus., Oct., 1943, Jan., 1944). Pub. Personnel management (Irwin, 1947); Job analysis (with Shartle and Maynard) (Bur. of Bus. Res., 1945); "Use of wage incentives," *Jour. of Bus.*, 1932.

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JUNKIN, William Ross, 2261 Henry Ave., Memphis, Tenn. (1929)

JUSTINE, Sister Mary, Dunbarton Col., Washington 8, D.C. (1948)

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KAHLER, Alfred, 66 W. 12th St., New York 11, N.Y. (1940) New School for Soc. Res., prof., teach., res.; b. 1900; Diplom. Econ., 1927, Dr. sc. pol., 1932, Kiel. Fields 6, 7, 1a. Doc. dis. Die Theorie der Arbeiterfreisetzung durch die Maschine (Buske, Leipzig, 1933). Pub. "Forecasting the business cycle," Sept., 1939, "The public debt in the financial structure," Feb., 1944, Soc. Res.; Education for an industrial age (Cornell Univ. Press, 1948).

KAHLER, Clyde McCarty, 112 Crestview Rd., Bywood Hts., Upper Darby, Pa. (1926)

KAHN, Alfred Edward, R.D. 5, Ithaca, N.Y. (1943) Cornell Univ., asst. prof., teach., res.; b. 1917; B.A., 1936, M.A., 1937, New York; 1937-38, Missouri; Ph.D., 1942, Yale. Fields 12, 10, 6. Doc. dis. Great Britain in world economy (Columbia Univ. Press, 1946). Pub. "Fundamental deficiencies of American Patent Law," Sept., 1940, "Palestine: a problem in economic evaluation," Sept., 1944, A.E.R.; "British balance of payments and problems of domestic policy," Q.J.E., May, 1947. Res. Long-range study of economics of imperialism.

KAHN, Irving, 115 Broadway, New York, N.Y. (1945)

KAHN, Lewis G., 1233 N. Hoyne Ave., Chicago 22, Ill. (1947) Univ. of Minnesota, instr., teach.; b. 1922; 1939-41, Herzl Jr. Col. (Chicago); B.A., 1943, 1943-44, Chicago; 1944-47, Northwestern. Fields 2, 1, 3. Res. Analysis of causes for secular decline in prices in U.S. from 1873-96 (doc. dis.).

*KAHN, Louis B., Univ. of Wisconsin, Box 16-F, Badger, Wis. (1948) Univ. of Wisconsin, Dept. of Econ., grad. asst., teach., res.; b. 1918; B.S.A.S., 1940, Illinois Inst. of Tech.; M.S., 1948, Wisconsin. Fields 3, 1c, 14a. Res. Measurement of productivity in selected industries in Wisconsin.

*KAHN, Mark Leo, 383 Harvard St., Apt. 104, Cambridge 38, Mass. (1948) Harvard Univ., Grad. School of Arts and Sci., student, res., teach.; b. 1921; A.B., 1942, Columbia; M.A., 1948, Harvard. Fields 16, 12b, 6. Res. Impact of collective bargaining on industrial price policy (doc. dis.).

KAHN, Richard Arthur, 3907 58th Ave., Hyattsville, Md. (1944) U.S. Dept. of Interior, Econ. and Coop. Mktg. Sec., Fish and Wild Life Serv., chief, govt. serv.; b. 1891; J.O., 1913, Ph.D., 1915, Heidelberg. Fields 12b, 14a, 4c. Pub. Rechtsbegriffe der Kriegswirtschaft (Schweitzer, 1918); Taxation of wines and liquors (G. Gensheiner, 1921); "Industrial honour courts," 1939, "Development of government corporations," 1938, Daily Record (Baltimore); Res. Consumer preferences for fish and fishery products in U.S.A.; effect of Marshall Plan on U.S. fishery industries. Dir. W.W. in Amer., in Com. and Ind.

KAISER, Carl William, Pennsylvania Col. for Women, Woodland Rd., Pittsburgh 6, Pa. (1929)

KALB, John, 115 Central Park W., New York 23, N.Y. (1945)

KALB, Seymour, 97 Arden St., New York, N.Y. (1943)

KALDOR, Donald R., Iowa State Col., Dept. of Econ., Ames, Iowa. (1948)

KALISH, Samuel, 816 N. Mariposa Ave., Los Angeles, Calif. (1946)

KALTENBORN, Howard Stanley, 30 Rockefeller Plaza, Room 3226, New York, N.Y. (1941) Curtiss-Wright Corp., dir. of ind. rela., bus.; b. 1917; A.B., 1937, M.A., 1938, Nebraska; Ph.D., 1942, Wisconsin. Fields 16, 1, 3. Doc. dis. Mediation in labor disputes. Pub. Governmental adjustment of labor disputes (Foundation Press, 1943).

KAMARCK, Andrew Martin, 6905 Beverly Rd., Bethesda 14, Md. (1942) U.S. Treas., div. chief, govt. serv.; b. 1914; B.S., 1936, M.A., 1944, Harvard. Fields 10, 7, 12a.

KAMINS, Robert Martin, Univ. of Hawaii, Legislative Ref. Bur., Honolulu, T.H. (1946) Legislative Ref. Bur., res. asso., res., teach., edit.,

govt. serv.; b. 1918; 1936-37, California at Los Angeles; A.B., 1940, M.A., 1948, Chicago. Fields 9, 10, 2. Pub. "Impact of war upon federal tax structures," Taxes, Aug., 1942; "Is Britain's tax burden heavier than ours?" (co-author), Bul. of Nat. Tax Assn., Jan., 1941; Sales tax: how it applies to Hawaii (Legislative Ref. Bur., T.H., Jan., 1948). Res. Tax system of Hawaii (doc. dis.); governmental expenditures in Hawaii; fiscal provisions of state constitutions; personal incomes in Hawaii.

KAMM, Jacob O., 4211 Wooster Rd., Rocky River 16, Ohio. (1944) Baldwin-Wallace Col., School of Com., chmn., prof. of econ., teach., res.; b. 1918; A.B., 1940, Baldwin-Wallace; M.A., 1942, Brown; Ph.D., 1948, Ohio State. Fields 8b, 7, 10. Doc. dis. International aspects of stock market. Pub. "Foreign and American security price movements," Jour. of Finance, June, 1948; Decentralization of securities exchanges (Meador Press, 1942); Outline of stock market (Student Outlines Co., 1947).

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KANDYBA, Bernard Stogowski, 9804 Ave. J, Chicago 17, Ill. (1945) Allstate Ins. Co., admin. asst. to budget dir., bus., res.; b. 1917; B.S., B.A., 1940, Illinois; M.B.A., 1947, Northwestern; M.P.A., 1948, Wayne. Fields 11ac, 12b, 9.

KANE, Joseph Sylvester, 900 Broadway, Seattle 22, Wash. (1938) Seattle Univ., prof., teach., bus.; b. 1907; B.S., 1932, A.M., J.D., 1937, New York. Field 16, Pub. Labor Management Relations Act of 1947 (Univ. of Seattle, 1947). Res. Collective bargaining.

KANSON, (Mrs.) Arline Brown, 7 Cornelia St., New York, N.Y. (1943)

KANTOR, Anne Golden (Mrs. Harry S.), 1339 Shepherd St., N.W., Washington, D.C. (1946)

KANTOR, Harry S., 1339 Shepherd St., N.W., Washington, D.C. (1922)

KAPLAN, A. D. H., 722 Jackson Pl., Washington 6, D.C. (1923) Brookings Inst., sr. staff memb., res.; b. 1893; B.S., 1913, New York; M.A., 1922, Denver; Ph.D., 1930, Johns Hopkins. Fields 12, 5, 16. Doc. dis. Henry Charles Carey, a study in American economic thought (Johns Hopkins Press, 1931). Pub. Liquidation of war production (1944). Small business, its place and problems (C.E.D. Res. Reports) (1948) (McGraw-Hill); Guarantee of annual wages (Brookings Inst., 1947). Res. Concentration in American industry. Dir. W.W. in Amer. Dir. of Schol., Lead. in Educa.

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***KAPLAN, Eugene Jerome**, 444 Beach 67 St., Arverne, L.I., New York. (1948) Dept. of Com., British Commonwealth Br., Office of Int. Trade, econ. anal., res., govt. serv.; b. 1918; B.B.A., 1939, City of New York; M.A., 1948, Chicago. Fields 10, 16, 7.

KAPLAN, Jacob J., 3500 B St., S.E., Washington, D.C. (1947)

KAPLAN, Lawrence J., 800 West End Ave., New York 25, N.Y. (1946) Org. for Rehabilitation through Training, Fin. and Acctg. Office, Statis. Anal. Sec., chief, res.; b. 1915; B.A., 1937, Brooklyn Col.; M.A., 1938, 1947-48, Columbia. Fields 1ab, 6, 9.

KAPLAN, Mortimer, 3445 38th St., N.W., Washington, D.C. (1946) Nat. Housing Agency, econ.; Fed. Housing Admin., econ.-actuary, govt. serv.; b. 1913; A.B., 1936, Harvard; A.M., 1937, Columbia. Fields 6, 7, 15de. Pub. "A method of analyzing elements of foreclosure risk," Jour. of Amer. Statis. Assn., June, 1942. Res. Income, savings, and mortgage investment.

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KAPLAN, Norman Maurice, 5532 Kenwood, Chi-

cago 37, Ill. (1947) Illinois Inst. of Tech., asst. prof. of econ. (on leave), teach., res.; b. 1917; A.B., 1939, M.A., 1947, 1948, Chicago. Fields 4ab, 1ac, 3ab. Res. Models for socialist economic planning with special reference to Soviet economic planning (doc. dis.).

***KAPLINSKY, Martin Herbert**, 501 Brightwater Ct., Brooklyn 24, N.Y. (1947) Columbia Univ., student, res.; b. 1921; B.A., 1944, Brooklyn Col.; 1943-44, Georgia School of Tech.; 1946-48, Columbia. Fields 12, 4ab, 1ab. Res. Mergers in rubber tire industry.

KAPP, Karl William, Wesleyan Univ., Middletown, Conn. (1938) Wesleyan Univ., asst. prof. of econ., teach., res.; b. 1910; Docteur a Sci., 1936, Univ. of Geneva. Fields 1b, 10, 4ab. Doc. dis. Planwirtschaft und Aussenhandel (Georg & Cie., Librairie Universitaire, 1936). Pub. League of Nations and raw materials (Geneva Studies, 1941); "Economic regulation and economic planning," A.E.R., 1939; "Teaching of economics: a new approach," Southern Econ. Jour., 1946. Res. Social costs of private enterprise, Dir. W.W. in New England.

***KARELSEN, Eph. A.**, 230 Park Ave., New York, N.Y. (1919)

KARFIOL, Rose, Bennett Col., Greensboro, N.C. (1948) Bennett Col., teach.; b. 1899; Ph.D., 1932, Univ. Cologne; M.P.A., 1946, New York. Fields 16, 17, 1. Res. Influence of I.L.O. on labor legislation in selected countries.

KARGER, Jacob, 701 Madison St., East Rochester, N.Y. (1938)

***KARP, (Jacob) Robert**, 497 Linden Blvd., Brooklyn 3, N.Y. (1946) Princeton Univ., asst., res., teach.; b. 1924; A.B., 1944, Brooklyn Col.; A.M., 1947, Princeton. Fields 1ac, 6, 3. Res. Studies in structure of interest rates (doc. dis.).

KARPINSKY, William, 108 Atlantic Ave., Atlantic City, N.J. (1947)

***KASDAN, Saul**, 2922 Barnes Ave., Bronx, New York, N.Y. (1948)

KASS, David, 204 Wellington Rd., Elmont, L.I., N.Y. (1946) Western Elec. Co., Inc., Commodity Studies, econ., bus.; b. 1919; A.B., 1940, A.M., 1947, New York. Fields 14, 12b, 15c. Pub. Problems in price control: pricing techniques (OPA, 1947)

KASSALOW, Everett M., 1278 Dover Ave., Akron 2, Ohio. (1944) United Rubber, Cork, Linoleum, and Plastic Workers of America-CIO, res.; b. 1918; B.S.S., 1938, City of New York. Fields 16, 2. Pub. "New patterns in collective bargaining," in Insights into labor issues (Macmillan, 1948); "Health benefit programs established through collective bargaining" (with J. Nelson), Aug., 1945; "Collective bargaining in uniforms industry," Aug., 1944, Monthly Labor Rev.

***KASSALOW, Sylvia D. (Mrs. Everett M.)**, United Rubber Workers Union, High at Mill Sts., Akron 8, Ohio. (1945)

KASTELANSKY, Grace Sylvia, 275 Seaman St., New Brunswick, N.J. (1945) Rutgers Univ., Bur. of Econ. and Bus. Res., res. asso., res., edit.; b. 1916; B.A., 1937, New Jersey Col. for Women; M.A., 1938, Rutgers; 1939-42, Columbia. Fields 14a, 15c, 3c.

KASTIN, Lawrence Clifton, 1730 Harrison Ave., New York 53, N.Y. (1947)

KATONA, George, 1615 Brooklyn Ave., Ann Arbor, Mich. (1945) Univ. of Michigan, asso. prof. of econ. and psych.; Survey Res. Center, program dir.; res., teach.; b. 1901; Ph.D., 1921, Univ. of Goettingen. Fields 1a, 5, 7. Pub. Organizing and memorizing (1940), War without inflation (1942) (Columbia Univ. Press); Price control and business (Cowles Com. and Principia Press, 1944). Res. Surveys of consumer finances.

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KATZ, Nathan, 119 Vermilyea Ave., New York

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- *KATZ, Samuel I., 504 6th Ave., Belmar, N.J. (1948) B. 1916; 1938-39, London School of Econ.; B.A., 1940, M.A., 1942, George Washington; M.P.A., 1948, Harvard. Fields 10, 7.
- KAUFMAN, Abraham, 765 Southern Blvd., Bronx, New York, N.Y. (1937)
- KAUFMAN, Jacob J., Univ. of Buffalo, Dept. of Econ., Buffalo 14, N.Y. (1947) Univ. of Buffalo, lecturer in econ., teach.; b. 1914; A.R. 1934, Bunklyn Col.; M.S., 1935, 1935-36, 1947 48, Columbia Fields 12b, 7, 16.
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KIMMEL, Lewis Henry, 2480 16th St., N.W., Washington 9, D.C. (1941) Brookings Inst., staff member, res., edit.; b. 1899; A.B., 1921, Pennsylvania State Col.; M.B.A., 1927, Ph.D., 1934, Pennsylvania. Fields 9, 7, 8. Doc. dis. Taxation of banks (Nat. Ind. Conf. Bd., 1934). Pub. Governmental costs and tax levels (1948), Depreciation policy and business expansion (1946) (Brookings Inst.); Availability of bank credit, 1933-38 (Nat. Ind. Conf. Bd., 1939). Res. Taxes and economic incentives.

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KING, Alan Forrest, 600 Winston Ave., San Marino 9, Calif. (1935) Consult. in mktg. res., bus.; b. 1898; B.S.E., 1921, M.S., 1926, Michigan. Fields 11b, 14ab, 6.

KING, Harold Joseph, Louisiana State Univ.,

Dept. of Econ., Baton Rouge 3, La. (1938) Louisiana State Univ., prof. of econ., teach., res.; b. 1913; B.S. in B.A., 1935, M.A., 1936, Nebraska; Ph.D., 1941, Pittsburgh. Fields 16, 1a, 4a. Doc. dis. An economic analysis of scheduled airline transportation in U.S. Pub. "America's Fight in inflation," Amer. Jour. of Econ. and Soc., July, 1944; "The housing problem—its cause and cure," Jan. 9, 1947, "Economic interpretation of the Wagner Act," Jan. 23, 1947, Com. and Fin. Chron.

KING, Robert Callen, 1705 37th St., N.W., Washington 7, D.C. (1946) U.S. Maritime Com., Res. Div., Trade Routes Br., chief, res.; b. 1901; B.S. in C.E., 1923, Univ. of Colorado; M.C.E., 1933, Cornell Univ. Fields 13b, 12b, 3c.

KING, Willford Isbell, 28 Shore Rd., Douglaston, N.Y. (1911) Com. for Constitutional Govt., chmn., pres.; b. 1880; A.B., 1905, LL.D., 1931, Nebraska; M.A., 1910, Ph.D., 1913, Wisconsin. Fields 4a, 16, 3c. Doc. dis. Valuation of urban realty for purposes of taxation (Univ. of Wisconsin Press, 1914). Pub. National income and its purchasing power (Nat. Bur. of Econ. Res., 1930); Causes of economic fluctuations (Ronald Press, 1938); Keys to prosperity (Constitution and Free Enterprise Found., 1948). Res. State contributions to and receipts from national Treasury. Dir. W.W. in Amer., Lead. in Educa.

KINGSBURY, Laura M., Sampson Col., Sampson, N.Y. (1947) Sampson Col., asst. prof., teach.; A.B., Missouri; M.L., California; Ph.D., Columbia. Fields 15c, 2a, 1a. Doc. dis. Economics of housing (King's Crown Press, Columbia Univ., 1946). Res. Evaluation of housing in money terms, from point of view of consumer. Dir. W.W. in Amer., in New York.

KINSELLA, Thomas, Allied Chem. and Dye Corp., Barrett Div., 40 Rector St., New York 6, N.Y. (1932) Allied Chem. and Dye Corp., Barrett Div., asst. to pres., bus.; b. 1909; B.S., 1930, State Col. (Albany, N.Y.); M.A., 1931, Ph.D., 1938, Clark Univ. (Worcester, Mass.). Fields 11, 12, 8. Doc. dis. Albany as a world port (Clark Univ. Abstracts, 1938). Pub. Toward Latin American economic understanding (N.Y. State Educa., 1941).

KINZIE, George R., 1335 Denniston St., Pittsburgh 17, Pa. (1941)

KIRBY, Richard Morecraft, U.S. Decartelization Element, Bipartite Control Office, APO 757, c/o Postmaster, New York, N.Y. (1940) Dept. of Army, dir. of fin. detachment, Dusseldorf, Germany, govt. serv., res., bus., edit.; b. 1911; A.B., 1932, Berea Col.; A.M., 1933, Ohio State; A.M., Ph.D., 1942, Harvard. Fields 1ab, 16, 4ab. Doc. dis. Wage policies of United Mine Workers.

***KIRCHNER, Lucille**, 566 Columbian Ave., Columbus 4, Ohio. (1948)

KIRK, Lester King, Standard Accident Ins. Co., Detroit 32, Mich. (1927) Standard Accident Ins. Co., vice-pres., treas., dir., bus.; b. 1899; A.B., 1922, Carleton; 1924-25, Harvard. Fields 8, 3, 6.

†KIRK, William, 705 Indian Hill Blvd., Claremont, Calif. (1903) Pomona Col., emeritus prof. of soc., teach., res.; b. 1880; A.B., 1902, Ph.D., 1905, Johns Hopkins. Fields 16, 17, 15. Res. Preliterates of Pacific. Dir. W.W. in Amer., Lead. in Educa.

KIRKPATRICK, Arthur Lowell, Univ. of Hawaii, Dept. of Econ., Honolulu 10, T.H. (1937) Univ. of Hawaii, asst. prof., teach., b. 1912; B.A., 1935, M.A., 1937, Illinois; 1937-41, Brown. Fields 10, 1ab, 2a.

***KIRKPATRICK, Nora A. (Mrs. Arthur L.)**, Univ. of Hawaii, Dept. of Econ., Honolulu, T.H. (1945)

KIRN, Brian A., 1362 Monroe St., N.E., Washington 17, D.C. (1944) Catholic Univ. of America, asst. prof., teach.; b. 1911; A.B., 1935, St. Joseph's Col.; M.A., 1941, Ph.D., 1945, Catholic. Fields 1a, 6, 7. Doc. dis. Annual reports of American commercial banks (Catholic Univ. of America Press, 1945).

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- lumbia; Ph.D., 1937, Wisconsin. Fields 11, 4a, 2b. Doc. dis. Commerce Clause, the Supreme Court, and nationalism. Pub. Essays in legal economics (Univ. of Maine Press, 1932). Res. Introduction to business law. Dir. W.W. in Amer., in New England, Dir. of Schol.
- KIRSTEN**, Mary Helena, 1708 Lamont St., N.W., Washington, D.C. (1943)
- KISSELGOFF**, Avram Vladimir, Nat. Bur. of Econ. Res., "Hillside," W. 254th St. and Independence Ave., New York 63, N.Y. (1944) Nat. Bur. of Econ. Res., asso. res.; b. 1906; Master, 1928, Univ. of Toulouse (France); Diploma, 1938, Inst. of Statis. (Paris, France); 1941-44, Columbia. Fields 3ab, 7, 8b. Pub. "Liquidity preference of large manufacturing corporations," *Econometrica*, Oct., 1945. Res. Factors affecting demand for installment sales credit
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- KJELLSTROM**, Erik Torstorn Hjalmar, Nat. Asso. of Mfrs., 14 W. 49th St., New York 20, N.Y. (1938)
- *KLANG**, Goodman Lionel, 2601 Farragut Rd., Brooklyn 10, N.Y. (1946) Hillside High School, instr. in Spanish and English, teach., res., bus.; b. 1925; A.B., 1947, Brooklyn Col. Fields 16, 11ab, 8ab. Res. Industrial relations (master's thesis). Dir. W.W. in Amer. Col. and Univ.
- KLARAGARD**, Sever, 1118 St. Olaf Ave., Northfield, Minn. (1921)
- KLARMANN**, Herbert Elias, 2265 Grand Ave., Bronx, New York, N.Y. (1946) Brooklyn Col., asst. prof.; Columbia Univ., Teachers Col., res. asso.; teach., res.; b. 1916; A.B., 1939, Columbia; M.A., 1941, Ph.D., 1946, Wisconsin. Fields 9, 5, 1a. Doc. dis. Income taxation in the states. Pub. "A statistical study of income differences among communities," in *Studies in income and wealth* (Nat. Bur. of Econ. Res., 1943); "The paraplegic" (with E. Ginzberg), *Bul. U.S. Army Medical Dept.*, Oct., 1947; "Income tax deductibility," *Jour. of Nat. Tax Asso.*, June, 1948. Res. Structure of nursing profession and nursing education.
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- KLEIN**, Jeanne H., 19 S. 10th St., Newark 7, N.J. (1943) Reis & Chandler, Inc., res.; b. 1921; B.S., 1942, New York. Fields 13a, 8b, 3a
- KLEIN**, Joseph Jerome, 60 E. 42nd St., New York, N.Y. (1909)
- KLEIN**, Julius, 730 15th St., N.W., Washington 5, D.C. (1911) Klein & Saks, partner; b. 1886; B.Litt., 1907, M.Litt., 1908, LL.D., 1932, California; A.M., 1913, Ph.D., 1915, Harvard; LL.D., 1930, Lawrence. Fields 10, 11ab, 2. Doc. dis. The mesta—a study in Spanish economic history (Harvard Univ. Press, 1920). Pub. *Frontiers of trade* (Century, 1929). Dir. W.W. in Amer., Int. W.W.
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- KLEINER**, George, 1519 W. University Ave., Champaign, Ill. (1948) Univ. of Illinois, asst. prof., teach.; b. 1915; B.A., 1936, M.A., 1947, McGill Univ.; 1937-38, London School of Economics; Ph.D., 1947, Wisconsin. Fields 10, 7, 1a. Doc. dis. Income and employment in Fifth Federal Reserve District, 1930-40 (Fed. Res. Bank of Richmond, 1946). Pub. *Population changes in war period*, *Richmond Monthly Bul.*, Oct., 1944; *An analysis of inflation* (1943), *International currency plans* (1943) (Fed. Res. Bank of Richmond).
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- KLEINSORGE**, Paul Lincoln, Univ. of Oregon, Dept. of Econ., Eugene, Ore. (1948) Univ. of Oregon, asso. prof., teach., res., bus., govt. serv.; b. 1906; A.B., 1927, Stanford; M.B.A., 1929, Harvard; Ph.D., 1939, Stanford. Fields 16, 13ab, 11bc. Doc. dis. Some economic aspects of Boulder Canyon project. Pub. *Boulder Canyon project* (Stanford Univ. Press, 1940); "Western hydroelectric power developments," *Proceed. of Pacific Coast Econ. Asso.*, 1940.
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- KLINGENSTEIN**, Joseph, 120 Broadway, New York, N.Y. (1936)
- KLOPSTOCK**, Fred Herman, 33 Liberty St., New York 45, N.Y. (1944) Fed. Res. Bank of N.Y., econ., res.; b. 1913; Ph.D., 1935, Berlin Univ. Fields 10, 7, 4. Doc. dis. Der Tee im Britischen Weltreich (H. S. Hermann, Berlin, 1935). Pub. *Changes in the world cocoa economy* (Bibliographisches Institut, Leipzig, 1937); "Monetary reform in liberated Europe," *A.E.R.*, Sept., 1946; "Monetary and fiscal policy in post-liberation Austria," *Polit. Sci. Quar.*, Mar., 1948.
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- KLOTT**, J. J., Loras Col., Dubuque, Iowa. (1946)
- KNAF**, Henry G., 83-80 118th St., Kew Gardens, L.I., N.Y. (1939)
- KNAPP**, Joseph Grant, U.S.D.A., Coop. Res. and Serv. Div., Farm Credit Admin., Washington 25, D.C. (1927) Coop. Res. and Serv. Div., Farm Credit Admin., U.S.D.A., asso. chief, dept. head, res., edit., govt. serv.; b. 1900; B.S.C., 1922, Nebraska; M.A., 1923, Illinois; Ph.D., 1929, Stanford. Fields 4c, 11b, 8a. Doc. dis. The hard winter wheat pools (Univ. of Chicago Press, 1933). Pub. *Cooperative marketing of livestock* (E. G. Nourse) (Brookings Inst., 1931); *Cooperative farm supply purchasing in British Isles* (Farm Credit Admin., 1939); "Critical appraisal of purchasing cooperative," *American Cooperation*, 1946, 1947. Res. History of cooperative enterprise in U.S. Dir. Dir. of Schol.
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- KNIGHT**, Earl Lawrence, 4022 Marshall Rd., Drexel Hill, Pa. (1937) Pennsylvania Mfrs. Asso. Employers' Advisory Div., asso. dir., bus., res. b. 1906; B.S., 1926, Temple; M.A., 1932, Ph.D., 1940, Ohio State. Fields 16, 8ab, 7. Doc. dis. Convertible securities.
- KNIGHT**, Frank Hyneman, Univ. of Chicago Chicago, Ill. (1915)
- KNIGHT**, Melvin Moses, Univ. of California Dept. of Econ., Berkeley 4, Calif. (1924) Univ. of California, prof., teach., res.; b. 1887; A.B., 1913 Texas Christian Univ.; Ph.D., 1917, Clark Univ. Fields 2a, 4a, 10. Doc. dis. Ward's gynaeccentric

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KNIGHT, Willis Raymond, 626 Cherry Lane, East Lansing, Mich. (1948) Michigan State Col., instr., teach.; b. 1917; 1934-37, Ripon Col.; B.A., 1938, M.A., 1939, Wisconsin; 1940-41, Illinois; Ph.D., 1948, Maryland. Fields 15ab, 7, 10. Doc. dis. Factors affecting farm living levels.

KNIFE, James Launcelot, Lover's Lane, Princeton, N.J. (1937) Union Bag and Paper Co., asst. to pres., bus.; b. 1904; Ph.B., 1926, M.A., 1934, Ph.D., 1940, Yale. Fields 6, 8ab, 4a. Doc. dis. Significance of capital market.

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KNORR, Klaus E., Yale Univ., Inst. of Int. Studies, New Haven, Conn. (1945) Yale Univ., Inst. of Int. Studies, asso. prof., teach., res.; b. 1911; Ph.D., 1941, Chicago. Fields 10, 4. Doc. dis. British colonial theories, 1570-1850 (Univ. of Toronto Press, 1944). Pub. Tin under control (1945), World rubber and its regulation (1945) (Stanford Univ. Press); Raw-material problems and policies (League of Nations, 1946). Res. Problems of a union in Western Europe.

KNOWLES, James Wiley, Econometric Inst., 500 5th Ave., New York 18, N.Y. (1944)

KNOX, Frank Albert, Queen's Univ., Dept. of Econ., Kingston, Ont., Canada. (1926)

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KOCH, Albert Ralph, Bd. of Gov. of Fed. Res. System, Washington 25, D.C. (1945) Bd. of Gov. of Fed. Res. System, econ., res., govt. serv.; b. 1914; A.B., 1936, Oberlin; A.M., 1937, Ph.D., 1943, Columbia. Fields 8a, 7, 5. Doc. dis. Financing of large corporations (Nat. Bur. of Econ. Res., 1943). Pub. Financial requirements of department stores, 1920-40 (co-author) (Harvard Bur. of Bus. Res., 1942); "Estimated durable goods expenditures, 1939-45" (co-author), 1946, "Business loans of member banks," 1947, Fed. Res. Bul. Res. Economic aspects of inventory and receivables financing; industrial development and sources of new capital; equity capital problem of business.

KOCHENDERFER, C. C., Kent State Univ., Kent, Ohio. (1945)

KOENIG, Herman J., R.R. 3, Box 171J, Vienna, Va. (1943)

KOENKER, William Ernst, Univ. Sta., Grand Forks, N.D. (1948) Univ. of North Dakota, instr., teach., res.; b. 1911; M.A., 1938, North Dakota; summers, 1939, 1940, 1946, 1947, 1948, Ohio State. Fields 7, 6, 1a. Res. Banking trends in N.D., 1922-48 (doc. dis.).

KOHLER, Eric Louis, 1 N. La Salle St., Chicago 2, Ill. (1939) Self-employed, res., bus., govt. serv.; b. 1892; B.A., 1914, Michigan; M.A., 1915, Northwestern. Fields 11ac, 5. Pub. Auditing: an introduction to work of public accountant (1947), Advanced accounting problems (1947), Principles

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KOHN, Paul, 2115 R St., S.E., Washington 20, D.C. (1942) Food and Agric. Org. of United Nations, econ., teach., res.; b. 1902; attended Univ. of Vienna; M.S.S., 1942, New School for Soc. Res. Fields 10, 4b, 5. Pub. "Kritischer Rueckblick auf den New Deal," Feb., Mar., 1947, "Marx und Keynes," Jan., 1948, Die Zukunft (Vienna); "Labor and management," Modern Rev., Nov., 1946.

KOHNNEN, George B., St. Mary's Univ., San Antonio, Tex. (1942)

KOIVISTO, William A., 5704 Kenwood Ave., Chicago 37, Ill. (1947)

KOLBE, Frank Frederick, 307 N. Michigan Ave., Chicago 1, Ill. (1941) United Electric Coal Companies, pres., bus., teach., govt. serv.; b. 1892; A.B., 1914, M.A., 1917, Michigan. Field 11a. Dir. W.W. in Amer., in Chicago and Illinois, in Com. and Ind., Int. W.W.

KOLCHIN, Morris, 200 W. 15th St., New York, N.Y. (1932)

KOLLER, E. Fred, Univ. of Minnesota, St. Paul 1, Minn. (1942) Univ. of Minnesota, prof. of agric. econ., teach., res.; b. 1907; B.A., 1929, Augustana Col.; M.A., 1933, Ph.D., 1938, Minnesota. Fields 15b, 11bc, 8a. Doc. dis. Study of economic factors affecting efficiency of Minnesota creameries. Pub. Minnesota dry milk industry (Bul. 372, 1943), Trends in Minnesota dairy industry (Bul. 346, 1940), Organization and operations of Minnesota co-operative oil associations (Bul. 351, 1941) (Minn. Exp. Sta.) Res. Financing of farmers' co-operative associations in U.S.

KOLODNY, Jules, 829 E. 46th St., Brooklyn 3, N.Y. (1947) New York Univ., lecturer; Tilden High School, instr., teach.; b. 1910; D.S.S., 1933, City of New York; LL.B., 1932, St. Lawrence; M.S.E., 1937, City of New York; Ph.D., 1947, New York. Fields 1b, 2a, 3b. Doc. dis. Interpretative study of the economic, political, sociological and educational views of Veblen. Pub. "How degraded is American culture," Modern Rev., Mar., 1948; "Towards a theory of propaganda analysis," High Points, Oct., 1948; "The root is man," Politics, Mar., 1941. Res. Interpretation of political writings of Harold J. Laski; place of myth in an age of crises; a Veblenite takes a look at Keynesian economics.

KONIJN, Hendrik S., 2301 Ashby Ave., Berkeley 5, Calif. (1946) Univ. of California, student; b. 1918; Cand. ec. wet., 1938, Univ. School of Com. of Netherlands; M.A., 1942, Columbia. Fields 2b, 3a, 12a.

KOONTZ, Harold D., TWA, 101 W. 11th St., Kansas City 6, Mo. (1933) TWA Trans World Airlines-Transcontinental and Western Air, Inc., asst. to pres., bus., res.; b. 1908; A.B., 1930, Oberlin; M.B.A., 1931, Northwestern; Ph.D., 1935, Yale. Fields 13b, 12b, 11a. Doc. dis. American steam railroad depreciation under Interstate Commerce Act (Harvard Bus. Rev., 1936; Jour. of Land and Pub. Util. Econ., 1936-37). Pub. Government control of business (Houghton Mifflin, 1941); Men, groups, and the community (with others) (Harpers, 1940). Res. Economics of air transport. Dir. Dir. of Schol., W.W. in Amer. Educa.

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- ***KOPLIN, Harry Thomas**, Cornell Univ., Goldwin Smith Hall, Box 58, Ithaca, N.Y. (1948).
- KORETZ, Sidney**, 1368 Irving St., N.W., Washington 10, D.C. (1947).
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- ***KORSUN, Meyer**, 29 W. 27th St., New York 1, N.Y. (1948).
- KOTTKE, Frank Joseph**, P.O. Box 190, Chapel Hill, N.C. (1940) Univ. of North Carolina, asso. prof., teach., res.; b. 1913; B.A., 1937, M.A., 1938, Northwestern; Ph.D., 1944, Columbia. Fields 12a, 13ab, 3a. Doc. dis. Electrical technology and the public interest: case study of our national policy toward development and application of inventions (Amer. Coun. on Pub. Affairs, 1944). Pub. Federal regulatory restrictions upon motor carriers and water carriers (contrib.) (Senate Doc. 78, 79th Cong., 1st sess., 1945).
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- KOZELKA, Richard Louis**, 83 Bedford St., S.E., Minneapolis 14, Minn. (1923) Univ. of Minnesota, School of Bus. Admin., dean, prof., teach.; b. 1899; A.B., 1921, Beloit; M.A., 1926, Chicago; Ph.D., 1931, Minnesota. Fields 3a, 6, 11a. Doc. dis. Business indicators for Ninth Federal Reserve District with a tentative combined index (Univ. of Minnesota Press, 1932). Pub. Industrial trends in Minnesota, 1899-1937 (Minn. Resources Com., 1938); Procedure for community postwar planning—jobs and production at war's end—Albert Lea, Minnesota, charts a course (Com. for Econ. Develop. and Ch. of Com. of U.S., 1943); "Professional training for the controller," The Controller, 1947. Dir. W.W. in Amer., in Amer. Educa., Lead. in Educa.
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- KRAL, Alois**, Nat. Bank of Czech., Prague, Czech. (1947).
- KRAMER, Charles**, 4621 S. 34th St., Arlington, Va. (1945).
- KRAMER, Leon**, 19 W. 8th St., New York, N.Y. (1941).
- ***KRANDALL, Norman**, 2722 Evaline St., Detroit 12, Mich. (1943).
- ***KRAUSKOPF, Henry Kell**, Columbia Univ., Fernald Hall, New York 27, N.Y. (1946) Columbia Univ., student; b. 1917; B.B.A., 1940, Cincinnati. Fields 1, 7, 10.
- KRAUSS, Daniel Theodore**, 603 E. Cecil St., Springfield, Ohio. (1935) Wittenberg Col., Dept. of Bus. Admin., prof., dept. head, dir. of special schools, teach., res.; b. 1894; B.S., 1917, Knox Col.; J.D., 1926, Chicago. Fields 12b, 11ac, 8ac.
- KRAVIS, Irving Bernard**, Univ. of Massachusetts, Amherst, Mass. (1941) Univ. of Massachusetts, asso. prof., teach., res., govt. serv.; B.S., 1938, A.M., 1939, Ph.D., 1947, Pennsylvania. Fields 1a, 10, 16. Doc. dis. Theory of varying returns: study of relations between output and input in theory and in empirical data. Pub. "International comparisons of living costs," Estadistica, Dec., 1947; Economic problems of war (with R. T. Bye) (Crofts, 1942); "Prices and wages in Soviet Union" (with J. Mintzes), Monthly Labor Rev., July, 1947. Res. Foreign price levels.
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- KRAVITZ, Birdie**, 184 Vernon Ave., Brooklyn 6, N.Y. (1945) Brooklyn Col., instr.; b. 1923; B.A., 1942, Brooklyn Col.; M.A., 1943, 1943-45, New York; 1945, Columbia. Fields 7, 12, 16.
- ***KRAVITZ, Hilda**, 184 Vernon Ave., Brooklyn 6, N.Y. (1946).
- KREIDER, Carl Jonas**, Goshen Col., Goshen, Ind. (1941) Goshen Col., dean, prof. of econ., teach., res.; b. 1914; B.A., 1936, Goshen; M.A., 1938, Princeton; 1938-39, London School of Econ.; Ph.D., 1941, Princeton. Fields 10, 7, 2a. Doc. dis. Anglo-American trade agreement (Princeton Univ. Press, 1943). Pub. "Democratic processes in trade agreements program," Amer. Polit. Sci. Rev., Apr., 1940; "Anglo-American cotton-rubber barter agreement," Southern Econ. Jour., Oct., 1940; "Effect of American trade agreements: retrospect," A.E.R., Dec., 1941. Dir. Lead. in Educa.
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- ***KREPS, Juanita Morris (Mrs. Clifton H., Jr.)**, Box 591, Granville, Ohio. (1946).
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*KROLL, Bernard H., 374 Legion St., Brooklyn 12, N.Y. (1947) Columbia Univ., student; b. 1922; B.A., 1947, Brooklyn Col.; 1947-48, Columbia. Fields 16, 13b, 10.

KRONISH, Sidney Jack, 177 Boiling Springs Ave., East Rutherford, N.J. (1947) Fairleigh Dickinson Col., instr., teach., res.; b. 1912; B.S., 1935, M.A., 1937, New York; 1946-48, New School for Soc. Res. Fields 4, 16, 12. Pub. A guide to N.Y.C. license examinations (1937), Survey of economics (1937) (Acad. Pub. Guild); Story of the U.S.S. Barber (BuPers, U.S.N., 1945). Res. Economic planning and trade unionism (doc. dis.).

KROOPNICK, (Mrs.) Ethel, 3729 Longfellow, Detroit 6, Mich. (1948)

KROOSS, H. E., 8374 116th St., Kew Gardens 15, N.Y. (1947)

KRUEGER, Maynard C., Univ. of Chicago, Chicago, Ill. (1940)

KUBE, Harold Deming, 2831 Beechwood Circle, Arlington, Va. (1940) Cambridge Group (on leave of absence from Dept. of Com., Bur. of Census); b. 1910; B.B.A., 1932, Nebraska; M.B.A., 1934, Harvard. Fields 11ab, 14a, 12. Pub. Changes in distribution of manufacturing wage earners, 1899-1939 (co-author) (Depts. of Com. and Agric.).

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KUHLMAN, Clarence Eugene, Box 111, University, Miss. (1946) Univ. of Mississippi, asso. prof., teach., res.; b. 1907; B.A., 1933, M.A., 1933, Texas; Ph.D., 1941, North Carolina. Fields 13ab, 1b. Doc. dis. Municipally owned electric utilities in North Carolina. Res. Mississippi municipally owned electric utilities, operating results; operating manual for municipally owned electric utilities in Mississippi.

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*KUPERS, Louis, 5831 Cottage Grove, Chicago 37, Ill. (1948) Univ. of Chicago, student, res.; b. 1916; 1934-36, G.R. Jr. Col.; A.B., 1941, Calvin; M.B.A., 1947, Chicago. Fields 8b, 7, 11c. Res. Life insurance investments (doc. dis.).

*KUPINSKY, Mannie, 2707 Morris Ave., New York 58, N.Y. (1948) Student; b. 1917; B.S.S., 1939, City of New York; M.A., 1947, New York. Fields 10, 4b, 17b.

KURIHARA, Kenneth K., Rutgers Univ., Dept. of Econ., New Brunswick, N.J. (1946) Rutgers Univ., asst. prof., teach.; b. 1910; B.A., 1935, Ohio Wesleyan; M.A., 1936, Oberlin; Ph.D., 1942, Iowa; 1941, Missouri. Fields 1a, 7, 10. Doc. dis. Labor in the Philippine economy (Stanford Univ. Press, 1945). Pub. "Postwar inflation and fiscal-monetary policy in Japan," A.E.R., Dec., 1946; "Foreign investment and full employment," J.P.E., Oct., 1947.

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KUSHNER, Elias A., 73-44 184th St., Flushing, N.Y. (1944)

KUSIK, John Edward, 138 N. Mountain Ave., Montclair, N.J. (1934) General Electric Co., Air-conditioning Dept., dept. comptroller, bus.; b. 1898; M.S., 1925, Virginia. Fields 11, 8a, 7.

KUZNETS, George M., Univ. of California, Col. of Agric., Berkeley 4, Calif. (1947)

KUZNETS, Simon S., 7301 Mountain Ave., Melrose Park, Philadelphia 26, Pa. (1933) Univ. of Pennsylvania, prof.; Nat. Bur. of Econ. Res., memb., res. staff; b. 1901; B.S., 1923, M.A., 1924, Ph.D., 1926, Columbia. Fields 5, 6, 3c. Doc. dis. Cyclical fluctuations in retail and wholesale trade (Adelphi Press, 1926). Pub. Secular movements in production and prices (Houghton Mifflin, 1930); Seasonal variations in industry and trade (1934), National income and its composition (1941) (Nat. Bur. of Econ. Res.). Res. Distribution of income by size, U.S., 1914-45. Dir. W.W. in Amer.

KYLER, Rudolph H., Bethany Col., Bethany, W.Va. (1945)

KYRK, Hazel, 5717 Kimbark Ave., Chicago, Ill. (1920)

LABADIE, Juan, Box 113, Aguadilla, P.R. (1941)

LABOVITZ, Israel M., U. S. Bur. of the Budget, Washington 25, D.C. (1932) U. S. Bur. of the Budget, Fiscal Div., sec. chief, govt. serv.; b. 1907; B.A., 1928, Minnesota. Fields 9, 17b, 13b. Pub. Illinois revenue system, 1818-1936 (Ill. State Tax Com., 1936); "Aftermath of war in state finance," Nat. Tax Asso., Proceed., 1947. Res. Public policy and state finance in Illinois, 1818-1940 (doc. dis.); federal grants-in-aid to state and local governments; government component in national wealth—state and local segment.

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La FEVER, Mortier Wickham, 5912 16th St., N., Arlington, Va. (1946)

LAIDLER, Harry Wellington, 292 Garfield Pl., Brooklyn 15, N.Y. (1924) League for Ind. Dem., exec. dir.; b. 1884; A.B., 1907; A.M. (Hon.), 1934, Wesleyan Univ. (Conn.); LL.B., 1910, St. Lawrence Univ. (Brooklyn Law School); Ph.D., 1914, Columbia. Fields 4, 16, 12. Doc. dis. Boycotts and the labor struggle (John Lane, 1914). Pub. Social-economic movements (1944), Concentration of control in American industry (1931), A program for modern America (1936) (Crowell). Res. Democratic social planning. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

LAM, Mildred, 900 19th St., Washington, D.C. (1947)

La MACCHIA, Frank Richard, 2G Plateau Pl.,

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- LAMDEN, Charles William, 4470 Iowa St., San Diego 4, Calif. (1943) San Diego State Col., asso. prof.; Everts and Esenoff, partner; teach., bus., res.; b. 1916; A.B., 1937, M.A., 1939, California at Los Angeles; 1939-41, California. Fields 11c, 8ab, 7. Pub. "Place of accounting in price control," Acctg. Rev., Jan., 1943. Res. Influence of Securities and Exchange Commission on current principles of accounting (doc. dis.).
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- LAMPMAN, Robert James, Univ. of Washington, Dept. of Econ., Seattle 5, Wash. (1946) Univ. of Washington, acting asst. prof., teach., res.; b. 1920; B.A., 1942, Wisconsin; 1947-48, California. Fields 16, 9, 1. Res. West Coast maritime industry's labor (offshore) problems, 1921-46 (master's thesis).
- LANAHA, Thomas Joseph, Jr., 123 Rhode Island Ave., N.E., Washington 20, D.C. (1947) Dept. of Agric., Family Econ. Div., econ. res., govt. serv.; b. 1922; B.S., 1943, Maryland; 1945-46, U.S. Dept. of Agric. Grad School; 1946-48, Catholic. Fields 17d, 3c, 1a.
- LANDAU, Alfred, 23 Schenck Ave., Great Neck, L.I., N.Y. (1947) United Nations, Dept. of Econ. Affairs, econ. affairs officer, res., govt. serv.; b. 1914; Ph.D. of Law and Econ., 1937, Univ. of Vienna. Fields 9, 10, 3c. Res. Public debt, 1914-46.
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- LANDAUER, Carl, 1317 Arch St., Berkeley 8, Calif. (1935) Univ. of California, prof., teach., res.; b. 1891; 1909-10, 1911-12, Munich; 1910-11, 1914, Berlin; Ph.D., 1915, Heidelberg. Fields 4ab, 1a, 2. Doc. dis. Die Theorien der Merkantilisten und Physiokraten ueber die oekonomische Bedeutung des Luxus (Max Steinebach, Muenchen, 1915). Pub. Grundprobleme der funktionellen Verteilung des wirtschaftlichen Wertes (Gustav Fischer, Jena, 1923); Theory of national economic planning (Univ. of California Press, 1944, 2nd ed. 1947); "Bavarian problem in the Weimar Republic 1918-23," Jour. of Modern Hist., June, Sept., 1944. Res. History of modern socialism. Dir. Dir. of Schol. W.W. in California.
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- LANDAY, Donald Malcolm, 705 N. Wayne St., Arlington, Va. (1947) U.S. Dept. of Labor, Bur. of Labor Standards, labor econ., American Univ., lecturer; govt. serv., edit., teach.; b. 1914; B.S. in Econ., 1936, A.M., 1938, Pennsylvania. Fields 16, 1ac, 3ac. Pub. "Representation problems under New York State Labor Relations Act" (with W. T. Aienwald), Univ. of Chicago Law Rev., Apr., 1941. Res. Union management control of men's tailored clothing industry (doc. dis.).
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- LANG, Aldon Socrates, Box 3805, T.S.C.W. Sta., Denton, Tex. (1929) Texas State Col. for Women, Dept. of Econ. and Bus., dept. head, teach.; b. 1897; A.B., 1922, Baylor Univ.; A.M., 1925, Iowa; Ph.D., 1931, Texas. Fields 7, 1b, 9. Doc. dis. Financial history of public lands in Texas (Baylor Univ. Press, 1932). Pub. "Financial aspects of Texas public lands," Sept., 1931, "Economic diversification of the Southwest," June, 1940, Southwestern Soc. Sci. Quar.; "Income tax vs. sales tax," Texas Outlook, July, 1934. Dir. W.W. in Amer.
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- LANG, Richard Otto, 1807 Park Ave., Racine, Wis. (1946) S. C. Johnson & Son, Inc., econ., bus.,

res.; b. 1907; 1927-28, Toledo; 1928-30, George Williams Col.; Ph.B., 1931, A.M., 1932, Ph.D., 1936, Chicago. Fields 6, 11ab, 17acd. Doc. dis. Relation of economic status and educational status in Chicago (Univ. of Chicago Press, 1936). Pub. Census data of City of Chicago (Univ. of Chicago Press, 1934); "Problems of statistical control—military aspects," Mar., 1941; "Post-war planning for British official statistics," Sept., 1944, Jour. of Amer. Statis. Asso. Res. Business cycles and price indexes.

LANGHE, Oscar, Polish Delegation to U.N., 151 E. 67th St., New York 21, N.Y. (1938)

LANGER, Felix Gilbert, 1 Wall St., New York 5, N.Y. (1943) Self-employed, law, pub. acctg.; b. 1901; B.C.S., 1923, New York; LL.B., 1927, Brooklyn Law School.

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LANGLEY, John Hamilton, 70 Fifth Ave., New York 11, N.Y. (1947) Prentice-Hall, bus. book editor, bus.; b. 1914; B.S., 1937, Illinois; 1939-40, Harvard. Fields 11bc, 8a, 7.

LANGMUIR, Dean, 90 Broad St., New York 4, N.Y. (1913) Invest. counsel, bus., res.; b. 1886; A.B., 1910, Williams Col. Fields 8b, 6, 11. Res. Measurements of value of investment advice; effect of psychology on business and on security values. Dir. W.W. in Amer.

LANGSNER, A., 2640 W. Coyle Ave., Chicago 45, Ill. (1941)

LANGUM, John Kenneth, Fed. Res. Bank, 230 S. La Salle St., Chicago 4, Ill. (1944) Fed. Res. Bank of Chicago, vice-pres., res., bus.; b. 1913; B.A., 1933, Colorado Col.; M.A., 1936, Ph.D., 1943, Minnesota. Fields 7, 6, 8b. Doc. dis. Structure of cash balances in U.S., 1934-40. Pub. "Federal Reserve open market policy, 1934-39," Fin. and Invest. Rev. (Univ. of Minnesota), Dec., 1939; Problems and questions on principles of economics (Ginn, 1939). Res. Monetary policy and public debt management.

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LAPA, Joao Faria, Rua de S. Bernardo, 132-1 E., Lisbon, Portugal. (1948) Instituto Superior de Ciencias Economicas e Financeiras, teach.; Portuguese Railways, dept. head; b. 1904; Dr., 1926, Instituto Superior de Ciencias Economicas e Financeiras. Fields 13bc, 2a, 1b. Doc. dis. Transportes Terrestres—concorrência e coordenação (Livraria Portugal, 1946). Pub. Um aspecto da concorrência dos meios de transporte (Sociedade de Ciencias Economicas, 1947); Um problema económico: o preço de transp. de mercadorias, por cam. de ferro, em face da concorrência automovel (Portuguese Railways, 1939); O caminho de ferro, elemento de turismo (Congresso Nacional de Turismo, 1936). Dir. Quem é quem (W.W. in Portugal).

La PERLE, Elizabeth S., 290 W. 11th St., New York 14, N.Y. (1948)

LARCOM, Russell C., P.O. Box 1451, University, Ala. (1936) Univ. of Alabama, prof. of fin., teach., res.; b. 1903; A.B., 1925, M.B.A., 1928, Harvard; Ph.D., 1937, Johns Hopkins. Fields 8ab, 9, 12. Doc. dis. Delaware corporation (Johns Hopkins Press, 1937). Pub. Financial effects of business taxes (Univ. of Alabama Press, 1946).

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LARSEN, Harald C., 2808 Cameron Mills Rd., Alexandria, Va. (1941)

LARSON, Adlowe Lyle, Oklahoma A. and M. Col., Dept. of Agric. Econ., Stillwater, Okla. (1937) Oklahoma A. and M. Col., prof., teach., res.; b. 1907; B.S., 1934, M.S., 1935, South Dakota State Col.; Ph.D., 1944, Wisconsin. Fields 15b, 11b, 4c. Doc. dis. Union equity co-operative exchange—a co-operative terminal grain sales agency. Pub. "Price policy for agriculture," Nov., 1945, "Fixity gradient: a tool for fixed and variable cost analysis," Aug., 1946, "Research in grain marketing," Nov., 1947, Jour. of Farm Econ. Res. Influence of agricultural policy on Oklahoma agriculture; marketing dairy products; multiple vs. single unit elevator efficiency.

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*LARSON, Ralph E., 2050 8th St., La Verne, Calif. (1948)

LARY, Hal Buckner, United Nations, Econ. Com. for Europe, Palais des Nations, Geneva, Switzerland. (1946) United Nations, Econ. Com. for Europe, Res. and Plan. Div., asst. dir., res.; b. 1910; Licence-Sc. Pol., 1932, Univ. of Geneva; 1930-34, Grad. Inst. of Int. Studies (Switzerland). Fields 10, 4b.

LASSEN, Andrew Peter, R. 1, Box 479, Los Gatos, Calif. (1930) San Jose State Col., asso. prof. of econ., teach., res.; b. 1895; A.B., 1927, M.A., 1930, Ph.D., 1934, California. Fields 2a, 9, 15d. Doc. dis. Commerce in the Baltic from 1500 to 1700.

LASSO de la VEGA, José N., Apartado 679, Panamá, Republic de Panamá. (1944)

LASSWELL, Harold D., Yale School of Law, New Haven, Conn. (1945)

LATIMER, Murray Webb, 1625 K St., N.W., Washington 6, D.C. (1925) Self-employed, bus.; b. 1901; B.A., 1919, Mississippi Col.; M.B.A., 1924, Harvard; 1926-28, Columbia. Fields 17bc, 16. Pub. Industrial pension system in U.S. and Canada (1933), Trade union pension systems in U.S. and Canada (1932) (Ind. Rela. Coun., Inc.); Guaranteed wages (Govt. Prtg. Office, 1947). Dir. W.W. in Amer., Dir. of Schol.

LATOUR, C. Charles, 10 Meadway, Bronxville, N.Y. (1922)

LATTA, Maurice Carson, Univ. of Nebraska, Lincoln 8, Neb. (1946) Univ. of Nebraska, asst. prof., teach.; b. 1900; A.B., 1924, Simpson Col.; A.M., 1925, Iowa; Ph.D., 1930, Ohio State. Fields 2a, 10, 4a. Doc. dis. Thought of protestant churchmen concerning social and economic problems, 1890-1914. Pub. "Background for social gospel in America," Church Hist., Sept., 1936; "Reception of socialism by American Protestants," Mich. Acad., 1938.

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LAUTER, Sylvia, 220 W. 93rd St., New York

- 25, N.Y. (1941) B. 1910; B.A., 1937, Wisconsin; 1938-40, Columbia. Fields 9, 1b, 12.
- LAUTERBACH**, Albert, 545 W. 236th St., New York 63, N.Y. (1939) Sarah Lawrence Col., Soc. Sci. Faculty, memb., teach., res.; b. 1904; Dr. rer. pol., 1925, Univ. of Vienna. Fields 4ab, 10, 1. Doc. dis. Modern social movements. Pub. Economic security and individual freedom: can we have both? (Cornell Univ. Press, 1948); Economics in uniform: military economy and social structure (Princeton Univ. Press, 1943); "Economic condition of Germany and Austria," in Towards world prosperity (Harper, 1947). Res. Psychological frontiers of economics. Dir. W.W. in Amer.
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- LAWRENCE**, George J., Ill. State Ch. of Com., Tax Dept., 20 N. Wacker, Dr., Chicago 6, Ill. (1944)
- LAWSON**, Eric Wilfred, Syracuse Univ., Col. of Bus. Admin., 105 Slocum Hall, Syracuse, N.Y. (1940)
- LAX**, Ernest, 520 S. 19th St., Richmond, Calif. (1947)
- LAY**, Chester Frederic, Southern Illinois Univ., Box 516, Carbondale, Ill. (1947)
- LAYER**, Robert George, 4356 Glendale Ave., Detroit 4, Mich. (1947) Chrysler Corp., int. audit, bus.; b. 1921; 1938-39, Highland Park Jr. Col.; B.A., 1943, Ohio Wesleyan; M.A., 1948, Harvard. Fields 14a, 2a, 17a.
- LAYTON**, Sir Walter Thomas, The Economist, London, England. (1932)
- LEAMER**, Laurence Eugene, 6044 S. Ingleside Ave., Chicago 37, Ill. (1947) Univ. of Chicago, asst. prof. of soc. sci., teach.; b. 1914; 1932-35, La Crosse (Wis.) State Teach. Col.; summer, 1940, Harvard; A.B., A.M., 1939, 1941-43, 1946-48, Chicago. Fields lab, 2a, 7. Res. History of thought by economists on role of economics in liberal education.
- LEARNED**, Edmund P., Harvard Bus. School, Soldiers Field, Boston, Mass. (1923)
- LEARNED**, Edna Jean, Iowa State Col., 207 Ag. Annex, Ames, Iowa. (1946) Iowa State Col., instr., teach., res.; B.S., 1942, Michigan State Col.; M.S., 1945, Iowa State Col.; 1947, Chicago. Fields 17d, 1b, 2.
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- *LECHT**, Leonard Abe, Columbia Univ., 301 Business, New York 27, N.Y. (1947) Columbia Univ., School of Gen. Studies, lecturer, student, teach.; b. 1920, B.A., 1942, Minnesota; 1946-48, Columbia. Fields 16, 12, 4ab.
- LEDERER**, Walther, 19 Riggs Rd., N.E., Washington 11, D.C. (1936) Dept. of Com., Int. Econ. Div., Office of Bus. Econ., Analysis Staff, chief, econ. anal., govt. serv., res.; Ph.D., 1931, Univ. of Heidelberg. Fields 10, 5, 6. Doc. dis. The class struggle, its sociological structure, and its place in a sociological system (Archiv für Sozialwissenschaft und Sozialpolitik, 1931). Pub. Capital formation (with J. Marchak) (Hodge, London, 1936); "Business cycle and volume of money," Soc. Res., 1936; "International economic transactions of U.S.," Survey of Cur. Bus., 1946, 1947, 1948.
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- LEE**, Harry Herbert, Chief, Bipartite Info. Control Office, U. S. Element, APO 633, c/o Postmaster, New York, N.Y. (1935)
- LEE**, Judson Fiske, Ottawa Univ., Ottawa, Kans. (1942)
- LEE**, Maurice W., State Col. of Washington, School of Econ. and Bus., Pullman, Wash. (1939) State Col. of Washington, School of Econ. and Bus., dean, Dept. of Econ., chmn., teach., res., bus.; b. 1912; 1929-32, Denison Univ.; B.S., 1933, Illinois Inst. of Tech.; Ph.D., 1939, Chicago. Fields 6, 9, 12. Doc. dis. State anti-chain store taxation (Univ. of Chicago Press, 1939). Pub. "An economic appraisal of the Pacific Northwest," Harvard Bus. Rev., May, 1948; "Taxation, defense, and consumer purchasing power," Jour. of Mktg., July, 1941; Tax barrier to trade—protectionism and chain store taxes (Tax Inst., 1941). Res. Business cycles. Dir. W.W. in Amer.
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- LEESE**, Charles, James Millikin Univ., Decatur 24, Ill. (1927) James Millikin Univ., prof., dept. head, teach., res.; b. 1898; A.B., 1924, Gettysburg Col.; M.A., 1925, Ph.D., 1929, Pennsylvania; summers, 1938, Harvard, 1930, Rutgers, 1940, 1943, 1944, Chicago. Fields 16, 14, 11ac. Doc. dis. Collective bargaining among photo-engravers in Philadelphia (Univ. of Pennsylvania Press, 1929). Pub. Two centuries in America—history of Lawrence Leese Family (Roberts Prtg. Co., Frankfort, Ky., 1941); "Significant experiences of photo-engravers during depression," Susquehanna Univ. Studies, 1936; "A system of wage sharing during depression," Soc. Sci. (Winfield, Kans.), 1940. Res. Production economics; labor problems. Dir. Lead. in Educa.
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- *LEFTWICH**, Richard Henry, 6119 Woodlawn Ave., Chicago 37, Ill. (1947) Univ. of Chicago, student; b. 1920; A.B., 1941, Northwestern Col.; 1941-42, Ft. Hays Kansas State Col.; M.A., 1948, Chicago. Fields 16, 1a, 7. Res. Some effects of regional and national collective bargaining on resource allocation (doc. dis.).
- LEGAN**, William Everett, 1179 Kirkham Rd., Glendale, St. Louis Co., Mo. (1940) Southwestern Bell Tel. Co., div. com. super., bus.; b. 1902; B.S., 1929, Southwest Missouri State Col.; M.S., 1940, Washington Univ. Fields 13c, 11a, 12b.

- LEHMAN, Leland Charles, 1392 Summit St., Columbus 1, Ohio. (1946)
- LEHMAN, Robert S., 8436 Piney Branch Ct., Silver Spring, Md. (1944)
- LEHRER, Max, 4213 12th Rd. S., Arlington, Va. (1946) Office of Budget; Office of Secy. of Defense, statis., govt. serv.; b. 1920; B.S.S., 1940, City of New York; M.A., 1948, American. Fields 12b, 14ab, 3c.
- LEIBACKER, Charles Edward, 4718 Oakton St., Skokie, Ill. (1947)
- LEIBENSTEIN, H. M., Princeton Univ., Dept. of Econ., Princeton, N.J. (1946)
- LEIGH, Arthur H., Reed Col., Portland 2, Ore. (1945) Reed Col., asst. prof. of econ., teach., res.; b. 1918; A.B., 1941, Colgate; Ph.D., 1946, Chicago. Fields 1ab, 10, 7. Doc. dis. Studies in theory of capital and interest before 1870. Pub. "Von Thunen's theory of distribution and advent of marginal analysis," J.P.E., Dec., 1946.
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- LEIGHTON, Leocade, 1728 N. Rhodes St., Apt. 277, Arlington, Va. (1943) Dept. of State, govt. serv.; b. 1917; A.B., 1939, Tufts; M.A., 1943, George Washington. Fields 14b, 10, 6. Res. Prefabrication.
- LEISERSON, William M., 3210 34th St., N.W., Washington 8, D.C. (1915)
- LEITER, Robert D., 1402 Bristow St., New York 59, N.Y. (1946) Col. of City of New York, instr. in econ., teach.; b. 1922; B.S., 1941, City of New York; M.A., 1944, Ph.D., 1947, Columbia. Fields 16, 1ab, 3ac. Doc. dis. Foreman in industrial relations (Columbia Univ. Press, 1948).
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- LELAND, Simeon Elbridge, Northwestern Univ., Col. of Lib. Arts, Evanston, Ill. (1921) Northwestern Univ., Col. of Lib. Arts, dean.; b. 1897; A.B., 1918, L.L.D., 1947, DePaul; A.M., 1919, Kentucky; 1919-20, Harvard Law School; Ph.D., 1926, Chicago. Fields 9, 7. Doc. dis. Classified property tax in U.S. (Houghton Mifflin, 1928). Pub. Division of costs and responsibility for public works (Govt. Prtg. Office, 1938); State-local fiscal relations in Illinois (ed.) (Univ. of Chicago Press, 1941); Revenue system of Panama (Inter-Amer. Development Com., 1946). Res. Public debts in U.S. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.
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- LEON, Charles Peter, 3862 Third Ave., Bronx, New York 57, N.Y. (1947) Univ. of Puerto Rico, teach.; b. 1916; B.S.S., 1942, City of New York; M.A., 1945, Columbia. Fields 5, 2, 7.
- LEONARD, Joy Luther, Univ. of Southern California, Los Angeles 7, Calif. (1927) Univ. of Southern California, prof., dept. head; b. 1884; A.B., 1907, Ohio Wesleyan; A.M., 1911, Ph.D., 1929, Yale. Fields 16, 1b. Doc. dis. Delinquent taxes. Dir. W.W. in Amer., Int. W.W.
- LEONARD, Norman Haddaway, Jr., Trappe, Md. (1941) Ohio Wesleyan Univ., asst. prof., teach., res.; b. 1918; B.A., 1939, American; M.A., 1941, Ph.D., 1947, Yale. Fields 9, 7, 6. Doc. dis. Public debt management. Res. Shared taxes and grants-in-aid in New Jersey local finance.
- LEONARD, William Norris, Rutgers Univ., Univ. Col. New Brunswick, N.J. (1940) Rutgers Univ., Univ. Col., Dept. of Econ., chmn., asso. prof., teach., res.; b. 1912; A.B., 1936, Virginia; M.A., 1938, Texas; Ph.D., 1945, Columbia. Fields 13ab, 12b, 2a. Doc. dis. Railroad consolidation under Transportation Act of 1920 (Columbia Univ. Press, 1946). Pub. "Some problems of postwar air transportation," A.E.R., May, 1947. Res. Surface transportation in northern New Jersey; transportation; American economic history. Dir. W.W. in Educa.
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- Le ROSSIGNOL, James Edward, Univ. of Nebraska, Lincoln 8, Neb. (1896) Univ. of Nebraska, Col. of Bus. Admin., dean emeritus, res.; b. 1866; A.B., 1888, L.L.D., 1921, McGill; Ph.D., 1892, Leipzig; L.L.D., 1911, Denver. Fields 4ab, 1ab, 16. Doc. dis. Ethical philosophy of Samuel Clarke (Gustav Kreyssing, Leipzig, 1892). Pub. Orthodox socialism (1907), State socialism in New Zealand (1910), From Marx to Stalin (1940) (Crowell). Dir. W.W. in Amer., in London, Dir. of Schol., Lead. in Educa.
- LESCOHIER, Don Divance, 1311 Morrison St., Madison 4, Wis. (1913)
- LESHER, Carl Eugene, 18 Wilson Dr., Ben Avon Heights, Pittsburgh 2, Pa. (1921) Disco Co., pres., bus., res.; b. 1885; E.Met., 1908, Colorado School of Mines. Fields 12a, 16, 6. Dir. W.W. in Amer.

- LESLIE, Gary A., Amer. Fair Trade Coun., 55 W. 42nd St., New York 18, N.Y. (1945)
- LESLIE, Grey, 2480 Sixteenth St., N.W., Washington, D.C. (1946) Free lance writer, edit., bus., res.; b. 1891. Fields 10, 14ab, 12. Pub. "Our natural resources," 1946, "Economics—that dismal science," 1947, "Our foreign trade," (1948), Conover-Mast Pub. Dir. Int. W.W.
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- LESTER, Allen Henry, American Embassy, Rio de Janeiro, c/o Dept. of State Mail Room, Washington 25, D.C.
- LESTER, Richard Allen, Princeton Univ., Dept. of Econ. and Soc. Inst., Princeton, N.J. (1929) Princeton Univ., Dept. of Econ. and Soc. Inst., prof., dept. head, res., teach.; b. 1908; Ph.B., 1929, Yale; M.A., 1930, Ph.D., 1936, Princeton; 1930-31, Univ. of Bonn. Fields 16, 17b, 7. Doc. dis. Some aspects of unemployment relief in New Jersey. Pub. Economics of labor (1941), Insights into labor issues (co-editor, author of Chap. 8) (1948) (Macmillan); Monetary experiments—early American and recent Scandinavian (Princeton Univ. Press, 1939). Res. Company wage policies; handling of job changes with changes in production methods under union agreements. Dir. W.W. in Amer., Dir. of Schol.
- LEUNG, Ping-Kel, 1715 Wisconsin Ave., N.W., Washington 7, D.C., (1941)
- LEVEN, Maurice, R.F.D. 2, Falls Church, Va. (1938)
- LEVEN, Stephan, 120 Wall St., New York 5, N.Y. (1945)
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- *LEVIN, Harvey J., Columbia Univ., 603 Farnald Hall, New York 27, N.Y. (1947)
- LEVIN, Mitchell J., 139 E. 35th St., New York, N.Y. (1940)
- LEVIN, Nathan W., 570 Lexington Ave., New York 22, N.Y. (1945)
- LEVIN, Samuel Mordecai, 12515 Broadstreet Blvd., Detroit 4, Mich. (1921) Wayne Univ., Dept. of Econ., chmn., prof., teach., res.; B.A., 1912, Michigan; M.A., 1925, Chicago. Fields 17abd, 16, 1ab. Pub. "Two studies of Ford labor policy," Rev. Econ. Int., Apr. 1932; "Marx vs. Malthus," Papers of Mich. Acad. of Sci., Arts, and Letters, 1936; "Malthus' conception of checks to population," Human Biology, May, 1938. Res. Problems in industrial relationships. Dir. W.W. in Amer., in Amer. Educa., Dir. of Schol.
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- LEVINE, Albert J., S. J. Tilden High School, E. 57th St., Brooklyn 3, N.Y. (1939)
- *LEVINE, Daniel Bernard, 130 Webster St., N.W., Washington 11, D.C. (1947)
- *LEVINE, Marvin, 60 Caryl Ave., Yonkers 5, N.Y. (1946) New York Univ., School of Com., instr., teach., res; b. 1924; B.S., 1945, M.B.A., 1946, New York. Fields 16, 2a, 1b.
- *LEVINSOHN, John J., 235 Westchester Ave., Tuckahoe 7 (Yonkers), N.Y. (1947) N.Y. State Dept. of Labor, econ., res.; b. 1924; B.A., 1946, M.A., 1947, 1947-48, New York. Fields 16, 14b, 10. Res. Wage, employment, and investment question in New York City construction industry (doc. dis.).
- LEVINSOHN, John L., 1870 Pacific Ave., San Francisco, Calif. (1947)
- LEVINSON, David, Univ. of Wisconsin, Sterling Hall, Madison 9, Wis. (1947) Univ. of Wisconsin, instr., teach.; b. 1919; B.A., 1942, Scranton; M.A., 1943, Syracuse; 1944-46, Wisconsin. Fields 16, 1a, 9. Res. Unionization of foremen (doc. dis.).
- LEVINSON, Harold Myer, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1945) Univ. of Michigan, instr., teach., res.; b. 1919; A.B., 1941, M.B.A., 1942, Michigan. Fields 16, 12, 1.
- LEVITAN, Leon B., 861 W. Roxbury Pkwy., Brookline, Mass. (1948) Nat Levitan & Co., Inc., bus.; b. 1917; A.B., 1938, Maine; M.A., 1945, Boston Univ. Fields 1ab, 7, 6. Res. Development and use of indifference curves in economic demand analysis (doc. dis.).
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- LEVY, Charles H., 3010 Valentine Ave., New York 58, N.Y. (1946)
- *LEVY, Joel, 3326 Auchentoroly Ter., Baltimore 17, Md. (1948) Johns Hopkins Univ., student; b. 1923; B.A., 1945, Rabbi, 1947, Yeshiva Univ.; 1947-48, Johns Hopkins. Fields 1, 3, 10.
- LEVY, Saul, 1 Wall St., New York 5, N.Y. (1917) C.P.A., lawyer; Century Lighting, Inc., pres.; bus., govt. serv.; b. 1891; B.C.S., 1916, New York; LL.B., 1921, Brooklyn Law School. Fields 11c, 8a, 9. Pub. "Accountants' liability," Amer. Inst. of Accountants, Sept., 1942; "Accountants relationship with lawyers," Jour. of Accountancy, July, 1941, Dir. W.W. in East.
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- LEWIS, Ben William, 68 S. Professor St., Oberlin, Ohio. (1923) Oberlin Col., prof., teach., res., govt. serv.; b. 1900; A.B., 1922, A.M., 1923, Ph.D., 1926, 1929-30, Michigan; 1927-28, Harvard; LL.B., 1934, Western Reserve. Fields 12, 13, 1a. Doc. dis. Going value. Pub. Price and production control in Great Britain (Univ. of Chicago Press, 1937); "Going value and rate valuation," Mich. Law Rev., 1928; "Public Utilities" in Government and economic life (Lyon et al.) (Brookings Inst., 1940). Res. Public utilities regulation. Dir. W.W. in Amer., Dir. of Schol.
- LEWIS, Charles Weaver, 6102 Temple Hill Dr., Hollywood 28, Calif. (1947) County Central Com. of the Democratic Party, 57th Assembly Dist.; b. 1901; B.A., 1932, Ph.D., 1934, Webster Univ.; LL.B., 1930, Hamilton Col. of Law; 1931, Ohio State; 1947, Los Angeles Univ. of Applied Educa., Law Col. Fields 9, 11a, 4ab. Doc. dis. School district organization in Pennsylvania, and state aid. Pub. Report of Santa Paula, California—analysis of past growth and expenditures, and a projected ten-year financial program (Calif. Taxpayers Asso., 1927); California taxes—state and local (Bur. of Educa. Res., 1936); State highway problem in Pennsylvania (Pa. State Ch. of Com., 1934).
- LEWIS, Clarence, 20 Exchange Pl., Room 3006, New York 5, N.Y. (1946)
- LEWIS, Edward Erwin, Howard Univ., Washington 1, D.C. (1942) Howard Univ., prof. of econ., teach., edit.; b. 1900; A.B., 1924, M.A., 1925, Ph.D., 1931, Columbia. Fields 3ac, 6, 7. Doc. dis. Mobility of Negro (Columbia Univ. Press, 1931). Pub. "Relation of commodities in demand," Econometrica, July, 1938.
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*LEWIS, John Kenyon, 1519 E. 61st St., Chicago, Ill. (1948)

LEWIS, John Prior, Union Col., Bailey Hall, Schenectady 8, N.Y. (1948) Union Col., asst. prof., teach.; b. 1921; A.B., 1941, Union Col.; M.P.A., 1943, Harvard. Fields 12b, 6, 1a. Res. Administrability of full employment price policies (doc. dis.).

LEWIS, Mabel Sterling, 112 Waverly Pl., New York 11, N.Y. (1935)

LEWIS, Robert Edward, Fed. Res. Bank, Res. Dept., Room 910, New York 45, N.Y. (1948) Fed. Res. Bank of N.Y., sr. statis. res.; b. 1917; B.A., 1939, Columbia; 1941-43, 1946-48, New York. Fields 6, 5, 16. Pub. "New indexes of hourly and weekly earnings" (with G. Garvy), Jour. of Amer. Statis. Asso., June, 1947.

LEWIS, Robert Miller, 105-26 63rd Rd., Forest Hills, N.Y. (1943)

LEWIS, Sir Willmott, Nat. Press Bldg., Room 1202, Washington, D.C. (1941)

LEWISOHN, Sam A., 61 Broadway, New York, N.Y. (1912)

LEZA, Walterio, 104 San Rafael St., Havana, Cuba. (1942)

LI, Philiton Chung-Hwai, Bank of Communications, Hankow, China. (1945) Bank of Communications, asst. mgr.; National Wu-Han Univ., visiting lecturer; res., bus., teach.; b. 1916; 1934-36, National Tsin-Hwa Univ.; B.A., 1941, West China Union Univ.; M.A., 1945, Yale. Fields 7, 4ab, 9. Pub. "On currency control—with a proposal to issue price index treasury notes," Sunday Tribune, Shun Pao, Mar. 17-19, 1947; "How to solve inflation," May, 1947, "A proposal to establish an index standard of monetary system," Mar., 1948, China's Econ. Rev. Res. Index standard of monetary system.

*LIANG, Agnes, 3321 8th St., N.E., Washington 17, D.C. (1948)

LICHTASH, Ben S., 5300 65th Pl., Maspeth, L.I., N.Y. (1946) Col. of City of New York, instr.; Amer. Mgt. Coun. Co., Inc.; res., teach.; b. 1922; B.B.A., 1942, City of New York; 1944-45, Cambridge (England); 1946-48, Columbia. Fields 6, 9, 3c. Pub. "Budgets and staff of public personnel agencies," Pub. Personnel Quar., Spring, 1942.

LIEBENBERG, Maurice, 3924 W St., N.W., Washington 7, D.C. (1946)

LIEBERMAN, I. M., 5542 Everett Ave., Chicago, Ill. (1946)

LIEBHAFSKY, Erwin E., Box 483, College Station, Tex. (1948)

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LIESON, William Anton, 137 Canterbury Rd., Springfield 8, Mass. (1935) Union Trust Co., vice-pres.; Northeastern Univ., Springfield Br., instr. in mktg.; A.B., 1932, Dartmouth; M.C.S., 1933, Amos Tuck School. Fields 8, 11, 7.

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LIMBER, Ralph C., 161 State St., Montpelier, Vt. (1942)

LIN, Lin, Ministry of Information, Ting Chia Chiao, Nanking, China. (1936)

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LINDER, Robert Lester, 108 W. Second St., Los Angeles 6, Calif. (1941) General Petroleum Corp., Market Res. Dept., statis., bus., res.; A.B. 1939, New Mexico; M.A., 1941, Princeton. Fields 6, 11ab, 8ab.

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LINDOW, Wesley, 64 Westminster Rd., Lake Success, N.Y. (1944) Irving Trust Co., vice-pres., bus., res.; b. 1910; B.A., 1931, Wayne; M.A., 1940, George Washington. Fields 6, 7, 8ab.

- LINDSAY, Samuel McCune**, 29 Claremont Ave., New York 27, N.Y. (1894) Columbia Univ., prof. emeritus; teach., res., edit.; b. 1869; Ph.B., 1889, LL.D., 1909, Pennsylvania; Ph.D., 1892, Univ. of Halle; 1892, Univ. of Berlin; 1893-94, Univ. of Rome and Paris. Fields 1ab, 16, 17b. Doc. dis. Preisbewegung der Edelmetalle (Fischer, Jena, 1893). Pub. Social aspects of Philadelphia relief work (privately printed, 1905); Railway labor in U.S. (Govt. Prtg. Office, 1902); Financial administration of Great Britain (with W.W. and W. F. Willoughby) (Appleton, 1917). Res. International Labor Organization. Dir. W.W. in Amer., in New York, Dir. of Schol., Lead. in Educa., Int. W.W.
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- LIPMAN, F. L.**, c/o Wells Fargo Bank and Union Trust Co., San Francisco, Calif. (1894)
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- †LOEB, Isidor**, Washington Univ., St. Louis, Mo. (1892)
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- LONG, Thomas G.**, 1436 Chicago Blvd., Detroit, Mich. (1924)
- LONG, William F. E., II**, 3902 McKinley St., N.W., Washington 15, D.C. (1947)
- LONGINI, Jacques Bennett**, 11 S. La Salle St., Room 2801, Chicago 3, Ill. (1948)
- LONIGAN, Edna**, 320 E. 42nd St., New York 17, N.Y. (1941)
- LOOMIS, Robert Herbert**, 190 Forest Ave., West Newton 65, Mass. (1915)
- LOONEY, Gordon M.**, Libbey-Owens-Ford Glass Co., 1034 Nicholas Bldg., Toledo 3, Ohio. (1947)
- LOPATA, Simon**, 43 Hart St., Brooklyn 6, N.Y. (1943) Rutgers Univ., instr. in econ., teach., res.; b. 1917; B.A., 1938, M.A., 1941, Brooklyn Col.; 1941-48, Columbia. Fields 3, 11, 1ac. Res. Determination of reliability, validity, and civilian applications of materials testing as developed by Quartermaster Board of U.S. Army.
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- LORENZ, Max Otto**, 253 Oxford Ave., Palo Alto, Calif. (1905)
- LORIE, James H.**, Univ. of Chicago, School of Bus., Chicago 37, Ill. (1947)
- LORIG, Arthur Nicholas**, Univ. of Washington, 210 Commerce Hall, Seattle 5, Wash. (1936) Univ. of Washington, asso. prof., teach., res., govt. serv.; b. 1898; B.A., 1922, Wisconsin; M.A., 1932, Stanford; Ph.D., 1936, Chicago. Fields 11c, 1a, 8a. Doc. dis. Classification of income and expenditures for municipalities. Pub. Accounting manual for small cities of Washington (State Auditor, Univ. of Washington, and Asso. of Wash. Cities, 1946); "Capitalization principle and depreciation charges," Pacific Coast Econ. Asso. Proceed., 1939; "Determining financial condition of a city," Acctg. Rev., 1941. Dir. W.W. on Pacific Coast.
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- LOTHIAN, John E., 309 Willow Ave., Lyndhurst, N.J. (1947) Nat. Broadcasting Co., econ. res.; b. 1915; R.S., 1937, M.B.A., 1942, New York; 1940-42, 1946-48, New School for Soc. Res. Fields 6, 14, 3b.
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- LOVASS, Leslie, 1904 Key Blvd., Apt. 451, Arlington, Va. (1936)
- LOVE, Joseph L., 410-17 Littlefield Bldg., Austin, Tex. (1940)
- LOVE, Robert Alonzo, 17 Lexington Ave., New York 10, N.Y. (1925) City Col. School of Bus. and Civic Admin., Evening and Ext. Div., dir.; b. 1898; B.A., 1922, Southwestern (Georgetown, Tex.); M.A., 1924, Ph.D., 1931, Columbia. Fields 12, 7. Doc. dis. Federal financing (Columbia Press, 1931). Pub. Price cutting and price maintenance (Harper, 1932); Selling (1938). Dir. W.W. in Amer., Dir. of Schol.
- LOVEDAY, Alexander, Nuffield Col., 19 Banbury Rd., Oxford, England. (1941) Nuffield Col., official fellow, teach., res.; b. 1888; B.A., 1911, M.A., 1913, Peterhouse, Cambridge; Hon.D.Litt., 1943, McGill Univ.; M.A., 1947, Oxford. Fields 10, 4b, 6. Pub. History and economics of Indian famines (1914); Britain and world trade (1931). Res. Democracy and fear. Dir. W.W. in Amer., Int. W.W.
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- LUCAS, Procopio Grande, c/o Standard Vacuum Oil Co., P.O. Box 300, Davao City, Philippines. (1947) Rizal Memorial Col., instr.; Standard Vacuum Oil Co., cashier; bus., teach., res.; b. 1911; B.C.S., 1935, José Rizal Col. (Manila); 1935-36, Far Eastern Univ. (Manila). Fields 4ab, 2, 10. Pub. "The retailer in modern business," Commerce (Ch. of Com. of Philippines), Sept., 1935. Res. Economic planning: its application in Philippines.
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- LUCK, (Mrs.) Mary Gorringer, Univ. of California, Dept. of Econ., 119 South Hall, Berkeley, Calif. (1946)
- LUDLOW, William Linnaeus, 160 W. High St., New Concord, Ohio. (1941) Muskingum Col., Dept. of Soc. and Govt., head, teach.; b. 1905; A.B., 1928, A.M., B.D., 1934, Oberlin Col. Fields 17, 16, 15. Pub. American constitution (1940), Syllabus for study of marriage and family (Radcliffe Press, 1941). Res. Fellowship of marriage; revision of syllabus on family.
- LUDMER, Henry, 3025 W. Bancroft St., Toledo 6, Ohio. (1947) Univ. of Toledo, asso. prof. of pub. fin., teach., res.; J.U.D., 1934, Univ. of Prague; D.pol.scon., 1939, Czech. Tech. Univ. of Com.; M.A., 1942, Missouri. Fields 9, 10, 12b. Doc. dis. Fiscal taxes (Prager Borsencourier, Prague, 1934). Pub. Handicraft vs. industry (Prager Borsencourier, 1938); "German financial mobilization," Amer. Acctg. Rev., Jan., 1943. Res. Toledo income tax; international economic policies of United Nations specialized agencies. Dir. W.W. in Educa.
- LUDET, Rudolph Edward, Pinewood Gardens, Hartsdale, N.Y. (1946) Calif. Texas Oil Co., Ltd., budget super., bus.; b. 1914. Fields 11a, 8a, 10.
- LUKACZER, Moses, 142 W. 94th St., New York 25, N.Y. (1938) Amer. Jewish Joint Distribution Com., Res. Dept., acting dir., res.; b. 1911; 1932, 1935, Columbia. Fields 16, 10, 3. Res. Application by National Wage Stabilization Board of wage stabilization criteria.

- LUKENS, Samuel Jesse, 30 Waconah Rd., Worcester 5, Mass. (1930)
- LUMPKIN, Katharine Du Pre, 54 Prospect St., Northampton, Mass. (1932)
- LUMPKIN, R. Pierce, 1215 E. Brookland Pk. Blvd., Richmond 22, Va. (1946)
- LUNDEN, Laurence Raymond, 3700 48th Ave., S., Minneapolis 6, Minn. (1930) Univ. of Minnesota, comptroller, asso. prof., bus.; b. 1907; B.A., 1929, Grinnell Col.; 1929-34, Minnesota; LL.D., 1940, Luther Col. Fields 8b, 7, 2a. Pub. A type study of American banking (Univ. of Minnesota Press).
- LURIE, Samuel, 390 Riverside Dr., New York 25, N.Y. (1943) Columbia Univ., lecturer in econ; ind. consult.; teach., bus.; b. 1904; Ingénieur Chimiste, 1927, Université de Gand (Ghent, Belgium); M.A., 1941, Ph.D., 1946, Columbia. Fields 1a, 7, 4a. Doc. dis. Private investment in a controlled economy—Germany, 1933-39 (Columbia Univ. Press, 1947).
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- LUTFALLA, Georges, 21 Place des Vosges, Paris, France. (1947)
- LUTHER, Rodney Frank, Univ. of Minnesota, School of Bus. Admin., Minneapolis 14, Minn. (1948) Univ. of Minnesota, dept. head, instr. in econ. and bus. admin., teach., bus.; b. 1920; B.B.A., 1946, M.B.A., 1947, Minnesota. Fields 11ab, 14ac, 4. Res. Socio-economic effects of consumer and producer co-operatives in Mexico, Argentina, and Brazil.
- LUTHRINGER, George Francis, 4401 Cathedral Ave., Washington 16, D.C. (1930)
- LUTZ, Friedrich August, 12 Prospect Apts., Princeton, N.J. (1938)
- LUTZ, Harley Leist, 14 W. 49th St., New York 20, N.Y. (1910) N.A.M.M., tax consult.; Princeton Univ., prof. emeritus of pub. fin.; teach., res., bus.; b. 1882; A.B., 1907, LL.D., 1932, Oberlin Col.; A.M., 1908, Ph.D., 1914, Harvard. Field 9. Doc. dis. State tax commission (Harvard Univ. Press, 1918). Pub. Public finance (Appleton-Century, 4th ed. 1947); Taxation of railroads in New Jersey (Princeton Univ. Press, 1939); Guideposts to a free economy (McGraw-Hill, 1945). Res. Revision of federal tax and budget system. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.
- LUTZ, John Piper, Hazel Apts., Hazel Ave. and State Rd., Upper Darby, Pa. (1942) Univ. of Pennsylvania, Wharton School, instr. in fin., teach.; b. 1914; A.B., 1936, Amherst Col.; M.B.A., 1938, 1941-42, Pennsylvania; 1939-40, Ohio State. Fields 7, 8ab, lab.
- LUTZ, Warren Hornberger, 533 Orchard Ave., Yeadon Boro, Del. Co., Pa. (1941) Baldwin Locomotive Works, Budgeting and Forecasting Div., statis.; Temple Univ., Evening School, teach. of statis.; bus., teach.; b. 1900; E.E., 1922, Lehigh. Fields 3a, 14a, 6.
- LUTZKER, Samuel Gregory, 1111 St. Johns Pl., Brooklyn 13, N.Y. (1941) N.Y. State Div. of Hous., asst. dir. of res. and statis., res., govt. serv., edit.; b. 1914; A.B., 1935, Brooklyn Col.; M.A., 1937, 1944-46, Columbia. Fields 16, 15de, 14ab. Pub. Employment opportunities in construction industry (U.S. Employ. Serv., Oct., 1945); The Albany, New York housing market (N.Y. State Div. of Hous., Oct., 1946). Res. Annual wage in construction industry (doc. dis.).
- LYND, Robert S., Columbia Univ., Fayerweather Hall, New York, N.Y. (1939)
- LYNE, James Garnett, 30 Church St., Room 940, New York, N.Y. (1935)
- *LYNN, Arthur D., Jr., Ohio State Univ., Dept. of Econ., Columbus 10, Ohio. (1946) Ohio State Univ., Dept. of Econ., instr., teach.; b. 1921; B.A., 1941, M.A., 1943, LL.B., 1948, Ohio State. Fields 9, 2a, lab.
- LYNN, Fred L., 4103 72nd St., Landover Hills, Md. (1945)
- LYNSKEY, Joseph V., Bansley and Kiener, 130 N. Wells St., Chicago 6, Ill. (1946)
- LYON, Hastings, 10 McClellan St., Amherst, Mass. (1912) Columbia Univ., School of Bus., retired; b. 1876; A.B., 1901, Dartmouth; LL.B., 1905, Harvard. Field 8ab. Pub. Corporations and their financing (Heath, 1938); Investment (Houghton Mifflin, 1926); Living on public debt (John Felsberg, 1944). Dir. W.W. in Amer.
- LYON, Leverett Samuel, Chicago Asso. of Com. and Ind., 1 N. La Salle St., Chicago 2, Ill. (1923) Chicago Asso. of Com. and Ind., chief exec. officer; b. 1885; 1906-07, Beloit Col.; Ph.B., 1910, LL.B., 1915, A.M., 1919, Ph.D., 1921, Chicago. Fields 11, 12, 4a. Doc. dis. A functional approach to social economic data (J.P.E., 1920). Pub. Hand to mouth buying (1929), National Recovery Administration (1935), Government and economic life (1939) (Brookings Inst.). Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.
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- LYONS, Will, 102-41 63rd Ave., Forest Hills, New York, N.Y. (1945) Self-employed, bus.; b. 1917; 1933-36, M.I.T.; B.S., 1939, Bucknell; 1942-48, American. Fields 1, 3, 12. Res. Economic principles and problems with emphasis on full employment of all resources within framework of individual freedom.
- *MA, John B., Fordham Univ., Grad. School, New York 58, N.Y. (1947) Fordham Univ., Grad. School, student, res.; b. 1923; B.A., 1946, Aurora; M.A., 1948, Fordham. Fields 4, 12, 11.
- MACARIO, Santiago Pedro, Kansas State Col., Dept. of Econ., Manhattan, Kan. (1944) Kansas State Col., instr. in econ., teach., res.; b. 1919; B.Com., 1937, High School of Com. (Cordoba, Argentina); C.P.A., 1941, Dr. in Econ. Sci., 1948, Univ. of Cordoba; 1942-43, Northwestern. Fields 1a, 4a, 3a.
- MACAULAY, Fred R., 120 Broadway, Room 2051, New York, N.Y. (1919)
- MacDONALD, Lois, New York Univ., Washington Square Col., New York, N.Y. (1944)
- MACDONALD, R. G., 450 1/2 Lafayette Ave., N.E., Grand Rapids, Mich. (1947)
- MACDONALD, Wendell D., 988 Memorial Dr., Cambridge, Mass. (1947) U.S. Bur. of Labor Statis., reg. dir.; Boston Univ., Econ. Dept.; govt. serv., teach.; b. 1908; A.B., 1931, M.B.A., 1933, 1943-44, Harvard. Fields 16, 14, 11. Pub. "Reconversion and employment in New England," June, 1946, "Cash sickness benefits in Rhode Island," June, 1946, Monthly Labor Rev. Res. Wage and price behavior in wartime.
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- MacFARLANE, David L., Box 200, Macdonald College, Que., Canada. (1947)
- MacGARVEY, Charles J., Orchard Cottage, Brooklandville, Baltimore Co., Md. (1940) Allied Aviation Corp., exec. vice-pres., dept. head, bus., res.; b. 1896; B.S. (Econ), 1920, Trinity Col. (Dublin). Fields 11a, 13a, 2a.
- MacGIBBON, Duncan Alexander, Bd. of Grain Commissioners for Canada, 267 Grain Exch. Bldg., Winnipeg, Man., Canada. (1911) Bd. of Grain Commissioners for Canada, commissioner, govt. serv.; b. 1882; B.A., 1908, M.A., 1911, LL.D., 1940, McMaster Univ. (Hamilton, Canada); Ph.D., 1915, Chicago. Fields 13b, 7, 10. Doc. dis. Railway rates and Canadian Railway Commission (Houghton Mifflin, 1917). Pub. Canadian grain trade (Macmillan of Canada, 1932); Population policies: economic policies necessary to implement them (Canadian Papers, Ser. A, Canadian Inst. of Int. Affairs, 1938). Res. Canadian grain trade. Dir. Int. W.W.
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- MacGREGOR, Donald Chalmers, Univ. of Toronto, Dept. of Polit. Econ., Toronto 5, Ont., Canada. (1930)
- MACHLUP, Fritz, Johns Hopkins Univ., Balti-

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- MACK, Russell Herbert, 31 Whitmarsh Rd., Ardmore, Pa. (1931) Temple Univ., prof., dept. head, teach., res.; b. 1897; A.B., 1920, Baker; A.M., 1923, Columbia; Ph.D., 1933, Pennsylvania. Fields 1a, 9, 4a. Doc. dis. Cigar manufacturing industry (Univ. of Pennsylvania Press, 1933).
- MACK, Ruth Prince, Nat. Bur. of Econ. Res., 1819 Broadway, New York 27, N.Y. (1941) Nat. Bur. of Econ. Res., res. staff; Columbia Univ., School of Bus., visiting lecturer; res., teach.; b. 1905; A.B., 1923, Barnard Col.; M.A., 1931, Ph.D., 1935, Columbia. Fields 6, 17d, 14c. Doc. dis. Controlling retailers: study of retail trade under NRA. Pub. Flow of business funds and consumer purchasing power (1938); Taxing to prevent inflation (with C. Shoup and M. Friedman) (1942). Res. Consumption and business cycle.
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- MACLAURIN, W(illiam) Rupert, Massachusetts Inst. of Tech., Cambridge 39, Mass. (1937) M.I.T., prof., res., teach., bus.; b. 1907; A.B., 1929, M.B.A., 1932, D.C.S., 1936, Harvard. Fields 14ab, 11a, 12a. Doc. dis. Economic planning in Australia, 1929-36 (P. S. King, London, 1937). Pub. "Wages and movement of factory labor" (with C. A. Myers), Feb., 1943; "Wages and profits in paper industry, 1929-39," Feb., 1944, Q.I.E.; Invention and innovation in radio industry (Macmillan, 1948). Res. Studies of process of innovation in housing and other industries. Dir. W.W. in Amer.
- MACLEISH, John E., 134 S. La Salle St., Chicago, Ill. (1934)
- *MacLEOD, William Marshall, 527 W. 121st St., New York 27, N.Y. (1948)
- MACMORLAND, Robert B., Col. Sta., Berrien Springs, Mich. (1946)
- MACMURPHEY, Robert Hyde, Henry Holt and Co., 257 Fourth Ave., New York 10, N.Y. (1941) Henry Holt and Co., vice-pres.; B.A., 1923, Minnesota.
- MACON, Hershall L., 3812 N. Broadway, Knoxville 18, Tenn. (1934)
- MACRAE, Duncan, Jr., Eliot House, Harvard Univ., Cambridge 38, Mass. (1943) Harvard Univ., student, teach. fellow, teach.; b. 1921; A.B., 1942, Johns Hopkins; A.M., 1943, 1946-48, Harvard. Field 1.
- MACY, C. Ward, Coe Col., Cedar Rapids, Iowa. (1935) Coe Col., prof. of econ., dean of faculty, dept. head, teach., res.; b. 1889; A.B., 1920, Grinnell; A.M., 1923, Iowa; Ph.D., 1932, Stanford. Fields 9, 7, 1ab. Doc. dis. Evaluation of sources of revenue for public education in Iowa. Pub. Public finance—selected readings (with E. D. Fagan) (Longmans, Green, 1934); "Social security taxes in war finance program," J.P.E., Apr., 1943; "Economy in postwar federal taxation," *Bul. of Nat. Tax Asso.*, Nov., 1945. Dir. W.W. in Amer., in Amer. Educa., Dir. of Schol., Lead. in Educa.
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- *MADDON, James Gray, Harvard Univ., 306 Littauer Center, Cambridge 38, Mass. (1935) U.S. Dept. of Agric., Bur. of Agric. Econ., asst. to chief, res.; b. 1907; B.S.A., 1927, Arkansas; M.S., 1930, Wisconsin; M.P.A., 1948, Harvard. Fields 15ab, 17b, 1b. Pub. "Suggestions for national program of rural rehabilitation and relief," Nov., 1939; "Price policy for agriculture, consistent with economic progress, that will promote adequate and more stable income from farming," Nov., 1945, *Jour. of Farm Econ.*; What peace can mean to American farmers, maintenance of full employment (U.S. Dept. of Agric., Misc. Pub. 562, 1945). Res. Analytical and historical study of Farm Security Administration.
- MADDON, James Robert, 2435 S. Monroe St., Denver 10, Colo. (1947)
- MADELEINE, Sister M. Grace, Immaculata Col., Immaculata, Pa. (1936) Immaculata Col., prof., dean, teach.; A.B., 1929, Immaculata Col.; A.M., 1936, Ph.D., 1942, Pennsylvania. Fields 1a, 7, 8. Doc. dis. Monetary and banking theories of Jacksonian democracy (Dolphin Press, Philadelphia, 1943).
- MAESTRI ARREDONDO, Raúl, 17 No. 66, Apt. 4, entre 4 y 6, Almendares, Marianao, Havana, Cuba. (1948) Journalism, edit., teach., bus., govt. serv.; b. 1908; Dr. Pub. Law, Dr. Private Law, 1929, Univ. of Havana; 1929-32, Univ. of Cologne, Frankfurt, Berlin. Fields 1ab, 2b, 4a. Doc. dis. El Latifundismo en la Economía Cubana (*Revista de Avance*, 1929). Pub. Nacionalsocialismo Alemán (*Biblioteca Nueva*, Madrid, 1932); Capitalismo y Anticapitalismo (Instituto de Previsión y Reformas Sociales, 1939); Algunas Lecciones Generales de la Zafra de 1945 (Asociación de Colonos de Cuba, 1945). Res. Doctrina económica de la Constitución Cubana; debe y haber de la economía Azucarera Cubano-Americana.
- MAEVERS, Martin, 852 Balra Dr., El Cerrito, Calif. (1947) Calif. Forest and Range Exp. Sta., conservationist, govt. serv.; b. 1901; Dipl. Agr., 1926, Univ. of Göttingen; M.S., 1931, Minnesota. Fields 15abd, 6, 1a.
- MAGDOFF, Harry Samuel, 20-17 23rd St., Long Island City 5, N.Y. (1936)
- MAGEE, Mabel A., Wells Col., Aurora, N.Y. (1925)
- MAGEE, Richard Hartnett, Standard Register Co., Dayton 1, Ohio. (1946) Standard Register Co., dir. of statis. control, dept. head, res., bus.; b. 1895; B.S. in F.S., 1937, Georgetown Univ.; M.B.A., 1939, Harvard. Fields 3a, 6, 11ab. Res. Industrial statistics; simplified charts and graphs for business use.
- MAGNUS, Erna F. R., 2 W. University Pkwy., Baltimore 18, Md. (1948)
- MAGNUSSON, Leifur, 816 Chalfonte Dr., Alexandria, Va. (1924)
- MAGOON, Donald Whitsey, 623 N. Lafayette St., Greenville, Mich. (1947) Meijer's Super Markets, Inc., controller-treas., bus.; b. 1910; B.S. in M.E., 1932, M.S., 1934, M.B.A., 1941, Michigan; 1942-43 (part-time), American. Fields 11a, 15ad, 17a. Res. Methods of operation.
- MAGOWAN, John Hall, British Embassy, Washington, D.C. (1943)
- MAGRATH, Charles Bolton, 199 Birch St., Winnetka, Ill. (1944) Greenlee Foundry Co., pres.;

Majestic Mines, Ltd., pres.; b. 1889; B.S., 1910, McGill; M.S., 1911, M.I.T.; 1912, Harvard. Fields 1a, 2a, 10.

*MAHONEY, J. R., Univ. of Utah, Salt Lake City, Utah. (1942)

*MAIER, Frank H., 1414 E. 59th St., No. 392, Chicago 37, Ill. (1948) Univ. of Chicago, student; b. 1918; A.B., 1940, Valparaiso; M.B.A., 1941, 1946-48, Chicago. Fields 1, 7, 15.

*MAIR, George Fisk, 24 Mercer St., Princeton, N.J. (1947) Princeton Univ., fellow; b. 1922; A.B., 1943, M.A., 1948, Princeton. Fields 17a, 3a, 1c.

MAISEL, Sherman J., Univ. of California, School of Bus. Admin., Berkeley 4, Calif. (1947) Univ. of California, asst. prof., teach.; b. 1918; A.B., 1939, M.A., M.P.A., 1947, 1947-48, Harvard. Fields 15c, 14b, 6. Res. Approach to problems of analyzing housing demand (doc. dis.).

MAJEWSKI, Louis J., 363 Down St., Ridgewood, N.J. (1948)

MALICK, Clay P., Univ. of Colorado, Dept. of Econ., Boulder, Colo. (1943)

MALIN, Max, 2107 Ft. Davis St., S.E., Washington 20, D.C. (1944) Labor Rel. Inf. Bur., dir., res., edit.; b. 1913; B.A., 1934, Brooklyn Col.; 1935, St. John's Univ.; LL.B., 1939, Georgetown Univ. Fields 16, 14, 10. Pub. Operating under Taft-Hartley Act (with S. H. Unterberger) (Labor Rel. Inf. Bur., 1947); Puerto Rico: the leaf tobacco industry (Apr., 1941), Economic factors bearing on minimum wages in candy and related products manufacturing industry (Aug., 1942) (U.S. Dept. of Labor, Wage and Hour Div.).

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MALLERY, Otto T., 9006 Crefeld St., Philadelphia 18, Pa. (1942) Edit., govt. res.; b. 1881; A.B., 1902, Princeton. Fields 10, 4b, 6. Pub. Economic union and durable peace (1943), More than conquerors—building peace on fair trade (1947) (Harper). Res. I.T.O. and next steps in international economic relationships. Dir. W.W. in Amer., Int. W.W.

MALONE, Carl Curtis, Story City, Iowa. (1941) Iowa State Col., prof., teach.; b. 1901; B.S., 1923, 1930, 1934, Iowa State Col.; 1937, Minnesota. Fields 15b, 10, 5.

MALOTT, E. Orth, 139 E. 35th St., New York 17, N.Y. (1929) B.S. in E.E., 1916, M.S. in E.E., 1923, Purdue; M.B.A., 1926, Ph.D., 1929, Northwestern. Fields 8, 13, 1. Doc. dis. Forces affecting municipal ownership in Wisconsin (Inst. for Res. in Land Econ. and Pub. Util., 1929). Pub. Agriculture's requirements for transportation in 1941 (Feb., 1941), Hoch-Smith resolution: study of legislative mandate (1942) (U.S. Dept. of Agric.).

*MALOTT, Edward O., Jr., 139 E. 35th St., New York 16, N.Y. (1941)

MALTBIE, Milo Roy, 233 Broadway, New York 7, N.Y. (1898) Dir. W.W. in Amer.

MANDEL, Bernard, 312 N. Thomas St., Arlington, Va. (1940) U.S. Dept. of Labor, Bur. of Labor Statis., price econ., govt. serv.; b. 1911; B.A., 1933, M.A., 1934, 1934-36, Pennsylvania. Fields 16, 3c, 14a. Pub. "Work and wage experience of veterans," Monthly Labor Rev., July, 1947. Res. Measurement of intercity cost-of-living differences.

MANDELBAUM, Arthur A., Dept. of Econ., Stanford University, Calif. (1947)

MANDEVILLE, Merten J., Univ. of Illinois, 314 Commerce Bldg., Urbana, Ill. (1946)

MANES, Alfred, Indiana Univ., School of Bus., Bloomington, Ind. (1936) Indiana Univ., School of Bus., prof. of ins. and econ. res., res., teach.; b. 1877; 1895-96 Munich; 1896-97, Strassburg; LL.D., 1898, Goettingen; Ph.D., 1899, Heidelberg. Fields 8c, 10, 17b. Doc. dis. Haftpflicht-Versicherung (Hirschfeld, Leipzig, 1902). Pub. Versicherungswesen (Teubner, Leipzig, 5th Ed., 1930); Versicherungs-Lexikon (Mittler, Berlin, 3rd ed., 1930); Staatsbankrotte (Sigismund, Berlin, 3rd ed., 1922). Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.

*MANGOLD, George Benjamin, 3764 Olympiad Dr., Los Angeles 43, Calif. (1910) Univ. of South-

ern California, retired prof.; b. 1876; A.B., 1901, Cornell Col.; M.A., 1903, Chicago; Ph.D., 1906, Wisconsin. Fields 17ab, 1b, 5. Doc. dis. Labor argument in protective tariff controversy (Univ. of Wisconsin, 1908). Pub. Problems of child welfare (1914, 1924, 1936), Social pathology (1932), Organization for social welfare (1934) (Macmillan). Dir. W.W. in Amer.

MANHART, Lewis Franklin, 128 Crim St., Bowling Green, Ohio. (1942) Bowling Green State Univ., asso. prof. of bus. admin., teach., res., bus.; b. 1897; B.S. in Ed., 1929, Bowling Green State Univ.; M.A., 1936, Ohio State. Fields 11b, 3a, 7. Pub. Attitudes of consumers and businessmen toward price control (Toledo Univ., Bur. of Bus. Res., 1943).

MANLY, Lewis Frederick, Tufts College, Mass. (1928)

MANN, Fritz Karl, 25 Williams Lane, Chevy Chase 15, Md. (1936) American Univ., prof. of econ., dept. head, teach.; b. 1883; 1902-09, Freiburg, Munich, Paris, London; Dr. juris, 1906, Goettingen; Ph.D., 1912, Berlin. Fields 9, 1b, 6. Doc. dis. Der Marschall Vauban und die Volkswirtschaftslehre des Absolutismus (Duncker und Humboldt, Munich, 1914). Pub. Die Staatswirtschaft unserer Zeit (1930), Deutsche Finanzwirtschaft (1929), Steuerpolitische Ideale, 1600-1935 (1937) (G. Fischer, Jena). Res. History of economic thought; fiscal theory. Dir. Int. W.W.

MANSON, Julius Joel, N.Y. State Bd. of Mediation, 270 Broadway, New York 7, N.Y. (1948) N.Y. State Bd. of Mediation, supervising labor mediator; Cornell Univ., School of Ind. and Labor Rel., lecturer; govt. serv., teach., res.; b. 1907; B.A., 1931, M.A., 1932, Columbia; LL.B., 1936, Brooklyn Law School. Fields 16, 4, 1a. Pub. "Mediation: theory and practice," Mar., 1946, "A matter of knowledge: education for labor relations," Apr., 1948, Industrial Bul. (N.Y. State Dept. of Labor). Res. Arbitral process in labor disputes (doc. dis., Columbia); curriculum for teacher training in workers education.

MANTERO, Carlos, 76 Beaver St., Suite 505, New York, N.Y. (1947)

MANUEL, Milton Lloyd, Kansas State Col., Dept. of Econ. and Soc., Manhattan, Kan. (1940)

MANVET, Allen Dailey, 6221 Western Ave., Washington 15, D.C. (1947) U.S. Bur. of Census, Governments Div., chief; George Washington Univ., lecturer in pub. admin.; govt. serv., teach.; b. 1912; A.B., 1934, Occidental Col., 1935-36, Chicago; 1939-40, Harvard. Fields 9, 4, 17. Pub. State aid to schools in Illinois (Ill. Dept. of Fin., 1940).

MARBURG, Theodore Francis, Princeton Univ., Dept. of Econ., Dickinson Hall 227, Princeton, N.J. (1938) Princeton Univ., asst. prof., teach.; b. 1914; summer, 1935, Harvard; B.A., 1936, Antioch Col.; summer, 1938, Columbia; M.A., 1937, Ph.D., 1942, Clark Univ. Fields 2a, 14a, 12a. Doc. dis. Management problems and procedures of a manufacturing enterprise, 1802-52, Scovill Manufacturing Company (Univ. Microfilms, Ann Arbor, 1945). Pub. "Commission agents in brass and button trade a century ago," Feb., 1942, "Manufacturer's drummer, 1832," Apr., 1948, Bul. of Bus. Hist. Soc.; "Historical aspects of imperfect competition in brass manufacturing," Jour. of Econ. Hist., sup., Dec., 1943. Res. Case study in economic and business history of nonferrous metals fabricating.

MARCH, Michael S., 4202 N. Henderson Rd., Apt. 3, Arlington, Va. (1946)

MARCKS, Oliver Dewey, 600 Griswold St., Detroit 26, Mich. (1943) Equitable Trust Co., pres.; b. 1898; A.B., 1917, Franklin and Marshall Col.; LL.B., 1924, Harvard.

MARCOUX, Dale C., Washburn Univ., Topeka, Kan. (1947) Washburn Univ., asso. prof. of econ., teach., res.; b. 1907; B.S. in B.A., 1929, M.B.A., 1937, Kansas. Fields 9, 7, 1.

*MARCUS, Edward, 700 Ocean Ave., Brooklyn 26, N.Y. (1943) Princeton Univ., student, part-time asst., res., teach.; b. 1918; B.S., 1939, M.B.A., 1914, Harvard; 1946-47, Univ. of Cambridge (Eng-

land); 1947-48, Princeton. Fields 7, 6, 10. Res. Canadian business cycle, 1927-37 (doc. dis.).

MARCUS, Hans G., 401 Broadway, New York 13, N.Y. (1946)

MARGET, Arthur William, Univ. of Minnesota, School of Bus. Admin., Minneapolis, Minn. (1926)

MARGOLIN, Raphael, 512 5th St., S.E., Washington 3, D.C. (1947)

MARGOLIS, Julius, Univ. of Chicago, Div. of Soc. Sci., Chicago 37, Ill. (1944) Univ. of Chicago res. asst., instr., res., teach.; b. 1920; B.S.S., 1941, City of New York; Ph.M., 1943, Wisconsin; M.P.A. 1947, Harvard. Fields 6, 4b, 9. Res. Effects of public investment on allocation of resources and economic stability (doc. dis.).

MARGOLIS, Milton Joseph, 1319 Grand Ave., Apt. 317, Dayton 7, Ohio. (1944)

MARIE, Sister Jean, Immaculata Col., Immaculata, Pa. (1943)

MARIE, Sister Clement, St. Francis Col., Joliet, Ill. (1944)

MARIMONT, Martin L., 200 Franklin St., Buffalo 2, N.Y. (1948)

MARKHAM, Jesse William, 26 Harvard Way Ext., Soldiers Field, Cambridge 63, Mass. (1944) Harvard Univ., teach. fellow, teach., res.; b. 1916; A.B., 1941, Richmond; 1941-42, Johns Hopkins; A.M., 1947, 1947-48, Harvard. Fields 12a, 1a, 3ac. Pub. "Differentials in productivity of labor," A.E.R., Mar., 1943. Res. Price and output behavior in rayon yarn industry (doc. dis.); vertical and horizontal integration in textile industry. Dir. W.W. in New England.

MARKLE, Herbert John, 610 N. Buxton St., Indianapolis, Iowa. (1947) Simpson Col., instr. of bus. admin., teach.; b. 1909; B.B.A., 1932, Minnesota; 1933, Wisconsin State Teachers Col.; 1947-48, Iowa. Fields 7, 8ab, 11a.

MARKOVITZ, Jerome L., 1032 Bankers Securities Bldg., Philadelphia 7, Pa. (1946) Attorney, bus.; b. 1909; B.S. in Econ., 1930, LL.B., 1933, Pennsylvania. Fields 16, 8a, 11a.

MARKS, Bernard J., 616 37th St., Des Moines 12, Iowa. (1942)

MARKS, Marvin Milton, 630 Gramatan Ave., Mount Vernon, N.Y. (1945) Au-Tempo Corp., sales, bus., res.; b. 1921; B.S., 1945, M.A., 1946, Ohio State. Fields 16, 3a, 11a.

MARONI, Yves Robert, Brown Univ., Dept. of Econ., Providence 12, R.I. (1947) Brown Univ., asst. prof., teach.; b. 1920; Bac. Ens. Sec., 1937, Univ. of Paris; 1938-40, Univ. of Paris Law School; Dipl., 1940, Ecole Libre des Sciences Politiques (Paris); A.M., 1941, Virginia; A.M., 1943, Ph.D., 1946, Harvard. Fields 10, 1a, 11c. Doc. dis. Theory of international trade under monopolistic competition. Pub. "Discrimination under market interdependence," Q.J.E., Nov., 1947. Res. Theory of international trade under monopolistic competition; analysis of some economic problems arising in accounting.

MARQUARD, Elva, 1112 16th St., N.W., Washington 6, D.C. (1940)

MARQUARDT, Philomena Lois, 416 Cayuga Heights Rd., Ithaca, N.Y. (1935) Cornell Univ., N.Y.S. School of Ind. and Labor Rel., asst. prof., teach., res.; b. 1901; B.S., 1934, M.S., 1935, Illinois; Summers, 1939-43, Chicago. Fields 16, 1a, 2a. Pub. "Extent of collective bargaining and union recognition," Apr., 1945, Apr., 1946, May, 1947, "Seniority in Akron rubber industry," Oct., 1944, "Union agreements in petroleum refining industry in effect in 1944," June, 1945, Monthly Labor Rev. Res. Extent of collective bargaining in New York State.

MARQUIS, Ralph William, 415 N. Glebe Rd., Arlington, Va. (1929) U.S. Dept. of Agric., Forest Serv., forest econ., govt. serv.; b. 1903; A.B., 1924, Univ. of Washington; M.A., 1928, Ph.D., 1931, Wisconsin. Fields 15b, 9, 8a. Doc. dis. Economics of private forestry. Pub. Economics of private forestry (McGraw-Hill, 1939).

MARSCHAK, Jacob, Univ. of Chicago, Faculty Exch., Chicago 37, Ill. (1939) Univ. of Chicago, prof., res., teach.; b. 1899; 1915-18, Technological Inst. (Kiev); Ph.D., 1922, Univ. of Heidelberg;

M.A., 1935, Univ. of Oxford. Fields 1ac, 3ab, 6. Doc. dis. Equation of exchange (Archiv fuer Socialwissenschaft, 1922). Pub. Capital formation (with W. Lederer) (Wm. Hodge & Co., London, 1936); "Money and theory of assets" (with H. Makowez), Economica and Econometrica, 1938; "Random simultaneous equations and theory of production" (with W. H. Andrews), Econometrica, 1944. Res. Theory of income and price level; theory of uncertainty and liquidity; economic measurement, prediction, and policy. Dir. W.W. in Amer., Int. W.W.

MARSH, Charles Franklin, 705 Powell St., Williamsburg, Va. (1929) Col. of William and Mary, Dept. of Bus. Admin., dept. head, prof. of econ. and bus. admin., teach., res.; b. 1903; A.D., 1925, Lawrence Col.; M.A., 1926, Ph.D., 1928, Illinois. Fields 13ab, 9, 12. Doc. dis. Trade unionism in electric light and power industry (Univ. of Illinois Press, 1928). Pub. "Local transportation problem in District of Columbia," Jour. of Land and Pub. Util. Econ., Aug., Nov., 1934, Feb., 1935; Opportunities for improvement in Virginia state tax structure (Va. State Ch. of Com., 1945); Industrial taxation in Virginia (Nat. Tax Asso., 1947). Res. Impact of war upon business structure, Hampton Roads-Peninsula area.

MARSH, Donald Bailey, Royal Bank of Canada, Head Office, 360 St. James St. W., Montreal 1, Que., Canada. (1941) McGill Univ., prof.; Royal Bank of Canada, econ.; teach., bus.; b. 1911; B.A., 1935, New Brunswick; M.A., 1936, Louisiana; Ph.D., 1940, Illinois. Fields 10, 7, 9. Doc. dis. Classical theory of international trade in light of assumptions of imperfect competition. Pub. "Scope of theory of international trade under monopolistic competition," Q.J.E., May, 1942; "Taxation of imputed income," Polit. Sci. Quar., Dec., 1943; Taxes without tears (Ronald Press, 1945). Res. International economics. Dir. Canadian W.W.

MARSH, William Henry, 4, Pentland Gardens, Edinburgh 10, Scotland. (1947)

MARSHALL, George, 38 E. 57th St., New York, N.Y. (1928)

MARSHALL, Herbert, Dominion Bur. of Statist., Ottawa, Ont., Canada. (1947) Dominion Bur. of Statist., Dominion Statist., govt. serv.; b. 1887; B.A., 1915, Univ. of Toronto. Fields 3ac, 5, 17a. Pub. Canadian American industry (with Southard and Taylor) (Yale Univ. Press, 1936); Canadian balance of international payment—study of methods and results (King's Printer, Ottawa, 1939); "Statistics of racial origin," Canadian Jour. of Pub. Health, June, 1945.

MARSHALL, Leon Carroll, 7007 Rolling Rd., Chevy Chase 15, Md. (1904)

MARSHALL, Stewart McCulloch, 430 Nevada Ave., Palo Alto, Calif. (1933) Consulting engineer, bus.; b. 1879; B.S., in E.E., M.E., 1910, Pennsylvania; M.S., 1932, Columbia. Fields 14ab, 11a, 12a. Pub. Elements of steam engineering (co-author) (Wiley, 1903). Dir. W.W. in Amer., in Engineering.

MARTIN, Boyce Ficklen, 315 Guthrie St., Louisville 2, Ky. (1940) Louisville Cement Co., treas., bus.; b. 1907; A.B., 1928, Davidson Col.; M.B.A., 1930, Harvard. Fields 11ac, 8a, 14ab. Pub. Agricultural industries (co-author) (McGraw-Hill, 1939); Story of Georgia (with others) (Sci. Res. Asso., 1942); Effect of processing tax on cotton textile industry (privately printed, 1943). Dir. W.W. in Amer.

MARTIN, Edgar Winfield, 147 S. Lake Ave., Albany 3, N.Y. (1940) N.Y. State, Div. of Budget, asso. res. anal., res., govt. serv.; b. 1910; A.B., 1932, Washburn Col.; A.M., 1934, Ph.D., 1942, Chicago. Fields 2a, 9, 10. Doc. dis. Standard of living in 1860 (Univ. of Chicago Press, 1942). Res. State aid for education; small business and government policy.

*MARTIN, Franklin Townsend, 501 W. Maple St., Winslow, Ariz. (1948) Int. Bus. Machines Corp., sales, bus.; b. 1922; B.A., 1947, Pomona Col.; 1947-48, Claremont Grad. School. Fields 12a,

13b, 16. Res. State labor laws patterned after Taft-Hartley Act.

MARTIN, James Walter, 241 Tahoma Rd., Lexington 1, Ky. (1923) Univ. of Kentucky, Bur. of Bus. Res., dir., distinguished prof., teach., res., edit.; b. 1893; A.B., 1920, East Texas State Teachers Col.; A.M., 1921, Peabody and Vanderbilt; 1922-24, summer 1927, Chicago. Fields 9, 13, 15a. Pub. Taxation of public service corporations in Virginia (sr. author) (Pub. Serv. Tax Study Com., 1947); Kentucky city finances (sr. author) (Univ. of Kentucky, 1946); Conflicting taxation (sr. author) (Coun. of State Govts., 1935). Res. Property tax on public service corporations in Kentucky; status of American Federalism from point of view of taxation; administration of over-all accounting for Commonwealth of Kentucky. Dir. W.W. in Amer., in Transp., Dir. of Schol., Lead. in Educa.

MARTIN, Joel Leo, 225 E. 11th St., New York 3, N.Y. (1945) Marion Harper Associates, Inc., dir. of res., res., bus.; b. 1920; B.S., 1940, 1944-45, New York. Fields 11b, 17ad, 3a. Pub. Group selling of newspapers to national advertisers (co-author) (Amer. News. Adv. Network, 1945). Res. Consumer panel operations; outdoor advertising measurements.

MARTIN, John Graham, 1114 Kenwood Rd., Darby, Pa. (1947) Drexel Inst. of Tech., asst. prof., teach.; b. 1909; B.A., 1934, Amer. Int. Col.; M.B.A., 1937, 1937-38, Pennsylvania. Fields 1ac, 7, 10.

MARTIN, June Bjorklund (Mrs. Edgar W.), 147 S. Lake Ave., Albany 3, N.Y. (1947) N.Y. State, Div. of Budget, sr. res. anal., res., govt. serv.; b. 1919; B.A., 1940, Beloit; M.A., 1943, Michigan. Fields 9, 2b, 1a.

MARTIN, Lee Roy, 2215 Newton St., N.E., Washington 18, D.C. (1947) U.S. Dept. of Agric., R.M.A., Dairy Br., econ., govt. serv., res.; b. 1916; B.A., 1937, Arkansas; 1940-41, George Washington; M.A., 1947, Harvard. Fields 15b, 1, 3. Res. Milk industry in the South (doc. dis.); supply problems in Philadelphia fluid milk market.

MARTIN, Margaret Elizabeth, 1118 N. Kenilworth St., Arlington, Va. (1938) U.S. Bur. of Budget, prin. econ., govt. serv.; b. 1912; A.B., 1933, Barnard Col.; M.A., 1934, Ph.D., 1942, Columbia. Fields 16, 17b, 2a. Doc. dis. Merchants and trade of Connecticut River Valley, 1750-1820 (Smith Col. Studies in Hist., 1938).

MARTIN, Noel Daniel, 802 Summit Ave., Albuquerque, N.M. (1948)

MARTIN, Robert F., 4125 Garrison St., Washington 16, D.C. (1939)

MARTINO, Juan R., Box 296, Bayamón, P.R. (1941)

MARTZ, Samuel Edward, 2115 N. Glebe Rd., Apt. 208, Arlington, Va. (1948) Nat. Office of Vital Statis., statis., govt. serv., bus. res.; b. 1909; B.A., 1928, M.S.W., 1938, Pennsylvania. Fields 16, 17abd, 3a. Pub. Long range work and relief policies (collab.) (Nat. Res. Plan. Bd., 1943). Res. Correlation of birth rates with various socio-economic factors.

MARX, Daniel, Jr., Dartmouth Col., Hanover, N.H. (1941) Dartmouth Col., prof. of econ., res., teach.; b. 1903; 1923-27, California; A.B., 1929, Dartmouth; Ph.D., 1946, California. Fields 10, 13b, 12. Doc. dis. U.S. Maritime Commission. Pub. "Merchant Ship Sales Act of 1946," Jour. of Bus. of Univ. of Chicago, Jan., 1948; "International organization of shipping," Yale Law Jour., Aug., 1946; "Structure of interest rates: comment," Q.J.E., Nov., 1941. Res. Maritime subsidies; shipping conferences (cartels). Dir. W.W. in New England.

MARX, Roy Louis, 436 W. Gorham, Madison 3, Wis. (1948) Univ. of Wisconsin, grad. asst., teach.; b. 1920; Ph.B., 1942, Carroll Col.; M.S., 1948, Wisconsin. Fields 16, 1ab, 4a.

MARX, Werner, 83-80 118th St., Kew Gardens, L.I., N.Y. (1944)

MASIKO, Peter, Jr., 6020 W. Addison St., Chicago 34, Ill. (1937) Wright Jr. Col., Soc. Sci.

Dept., dept. head; b. 1914; B.A., 1936, Lehigh; M.A., 1937, Ph.D., 1939, Illinois. Fields 16, 13ab. Doc. dis. Recent wage and hour legislation—an economic analysis. Pub. Introduction to social science (co-author) (Macmillan, 1941, 1942).

MASON, Edward Sagendorph, 9 Channing St., Cambridge 8, Mass. (1934) Harvard Univ.; b. 1899; A.B., 1919, Kansas; B.Litt., 1923, Oxford (England); Ph.D., 1925, Harvard; D.Litt., 1948, Williams. Fields 12, 1a, 10. Doc. dis. Dumping in international trade. Pub. The Paris Commune (Macmillan, 1930); Street railway in Massachusetts (Harvard Univ. Press, 1932); Controlling world trade (McGraw-Hill, 1946). Res. Wage-price problems. Dir. W.W. in Amer.

MASON, John Everett, 2012 N. Kenilworth St., Arlington, Va. (1940) U.S. Dept. of Agric., Bur. of Agric. Econ., agric. econ., res.; b. 1909; B.S., 1934, M.S., 1936, Tennessee; M.A., 1939, Minnesota. Field 15abd. Pub. Isolated settlement in Koochiching County, Minnesota (Bur. of Agric. Econ., 1940); "Acreage allotments and land prices," Jour. of Land Econ., 1946; Virginia's public lands—how they are used (Va. Agric. Exp. Sta., 1947). Res. Economic utilization of farm-grown feeds in livestock production. Dir. Int. W.W.

*MASS, Estelle, 462 Washington Blvd., Oak Park, Ill. (1948)

*MASSEL, Jean Magnus (Mrs. Mark S.), c/o Mr. Mark S. Massel, Bell, Boyd & Marshall, 135 S. La Salle St., Chicago, Ill. (1941)

MASSEL, Mark S., Bell, Boyd & Marshall, 135 S. La Salle St., Chicago, Ill. (1936)

MASSON, Robert Louis, Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1923)

MASTEN, John T., Univ. of Kentucky, Col. of Com., Lexington, Ky. (1948)

MASTERSON, J. G., 4640 Canal St., New Orleans 19, La. (1944)

MATCHETT, Gerald James, Illinois Inst. of Tech., Chicago 16, Ill. (1946) Illinois Inst. of Tech., asso. prof. of econ., teach., res.; b. 1912; A.B., 1934, Univ. of Colorado; M.A., 1935, Ph.D., 1939, Clark Univ. Fields 1a, 16, 10. Doc. dis. Double liability in relation to American banking structure. Pub. Economics: principles and problems (co-author) (Crowell, 1942, rev. 1947); "Price ceilings and wartime control over American economy" (with C. A. R. Wardwell), Survey of Cur. Bus., June, 1942. Res. Economic analysis of labor-management relations; value and price.

MATEO, Felix Alejandro, Apartado 2910, Lima, Peru, S. Amer. (1942) Compañía Sudamericana SKF, secy., bus.; b. 1902; 1921, Eastman Col. Fields 1a, 2b, 4. Pub. La Teoría Eucratia (1947); El Poder Economico del Estado (1934, 1940), El Sentido Cosmico de la Vida (1941) (Imprenta Miranda, Lima).

MATER, Dan Harrison, 5250 N.E. Glisan, Portland 13, Ore. (1948) Attny. General's Office, State of Wash., transp. consult., res., teach.; b. 1902; B.S., B.A., 1934, New Mexico; Ph.D., 1941, Chicago. Fields 13b, 16, 11a. Doc. dis. Railroad seniority system: history, description, and evaluation (Univ. of Chicago Press, 1941). Pub. Hourly remuneration rates by occupations in transportation industry (78th Cong., 2nd sess., 1944); Railroad consolidation and employee welfare (79th Cong., 1st sess., 1945). Res. Class freight-rate structure of Pacific Northwest.

MATEYO, George K., McKinsey & Co., 60 E. 42nd St., New York 17, N.Y. (1942)

MATHESON, Kenneth G., 216 Radnor St., Bryn Mawr, Pa. (1944)

MATHIASSEN, Martha, 540 W. 122nd St., New York 27, N.Y. (1947) Nat. Bur. of Econ. Res., researcher; b. 1923; 1941-42, Smith Col.; 1944-45, George Washington; B.S., 1946, 1946-47, Columbia. Fields 16, 3, 6. Res. Labor attaché program of U.S. Foreign Service (master's thesis).

MATHIS, Paul Carl, Univ. of South Dakota, School of Bus. Admin., Vermillion, S.D. (1948) Univ. of South Dakota, prof. of econ., teach., res.; b. 1917; summer, 1937, Heidelberg Univ.; B.A., 1938, Dubuque; 1938-39, Michigan; 1943-44, Hamil-

- ton Col. and Stanford; M.A., 1940, Ph.D., 1946, Iowa. Fields 1ab, 2a, 4. Doc. dis. Certain effects of imperfect competition upon economic system. Pub. "First five years of REA," Jour. of Bus., Nov., 1940; "Democracy and social sciences," Eleusis of Chi Omega, May, 1948. Res. Output and functional distribution under imperfect competition.
- MATHUR, Mukut Vehari, c/o Mr. Brij Mohan Lal Mathur, Head Clerk, I.G.P.'s Office, Bariyon-Ka-Rasta, Moti Kutra, Jaipur, Rajputana, India. (1946)
- MATHY, Leonard, Univ. of Washington, Col. of Econ. and Bus., Seattle 5, Wash. (1946)
- MATLOCK, Clifford Charles, 6501 14th St., N.W., Washington 12, D.C. (1943) U. S. Dept. of State, Office of Under Secy. of State, spec. asst. to co-ord. for aid to Greece and Turkey, govt. serv.; b. 1909; A.B., 1932, Stanford; A.M., and Certif. in P.A., 1940, Harvard. Fields 10, 3c, 6.
- MATLOCK, Wallace Holland, 180 E. California St., Pasadena 2, Calif. (1947) Invest. coun., bus., res.; b. 1906; 1923-24, Pasadena. Fields 8b, 11a, 15c. Pub. Risk and return: an abstract of investment theory (H. Dunn, New York, 1948). Res. Dynamics of security markets; economic geology of pre-Cambrian schists, gneisses, and granites of New Mexico and Arizona.
- MATLOCK, William Holland, 1124 E. Del Mar St., Pasadena 5, Calif. (1948) Retired col. prof.; b. 1869; Ph.B., 1896, Drake; 1896-97, Univ. of Goettingen; 1897, Univ. of Heidelberg; 1897-98, Univ. of Munich; 1898, Univ. of Lausanne; 1898-99, Univ. of Paris, Col. of France. Fields 2a, 1b, 4a.
- MATTESON, James Swift, 902 Fidelity Bldg., Duluth, Minn. (1919)
- MATTESON, Robert Johnson Montgomery, 684 Park Ave., New York 21, N.Y. (1947) Inst. of Pub. Admin., dir. of training, dean, teach., res.; b. 1916; A.B., 1938, Middlebury Col.; 1938-39, American; M.P.A., 1941, Harvard. Fields 12b, 4a, 5. Res. Social action respecting forestry in U.S. (doc. dis.).
- MATTHEWS, (Mrs.) Ruth Shallcross, 232 E. Lawrence St., Appleton, Wis. (1946) Inst. of Paper Chemistry, res. asso., res., teach.; b. 1906; A.B., 1929, Nebraska; 1933-35 (part time), Columbia; Ph.D., 1938, Bryn Mawr. Fields 14a, 12, 4. Doc. dis. Industrial homework (Ind. Affairs Pub. Co., 1939). Pub. "Some economic aspects of pulpwood situation," in Pulpwood (Tech. Asso. of Pulp and Paper Ind., 1947); "Economic aspects of recovering waste paper," Paper Mill News, Apr. 17, 1948; "The business of research," Proceed., Eleventh Ann. Exec. Conf., Inst. of Paper Chemistry, 1947. Res. Trends in industrial consumption of pulpwood.
- MATTIOLI, Raffaele, c/o Banca Commerciale Italiana, 14 Wall St., New York 5, N.Y. (1938)
- MATTSON, Gordon Le Roy, Univ. of Nebraska, Soc. Sci. Bldg., Lincoln 8, Neb. (1947) Univ. of Nebraska, asst. prof., teach.; b. 1920; B.B.A., 1942, M.A., 1943, Minnesota; 1944-46, Univ. of Colorado. Fields 11ac, 8a, 1.
- MAULDON, Frank Richard Edward, Univ. of Western Australia, Nedlands, Western Australia. (1930) Univ. of Western Australia, prof., dept. head, dean, teach., res., govt. serv.; b. 1891; B.A., 1915, M.Ec., 1924, Univ. of Sydney; Litt.D., 1929, Univ. of Melbourne. Fields 1a, 3a, 5. Doc. dis. Economics of Australian coal (Melbourne Univ. Press and Macmillan, 1929). Pub. Mechanisation in Australian industries (Dept. of Econ., Univ. of Tasmania, Res. Mono. 1, 1938); A study in social economics: Hunter River Valley (Robertson & Mullens, Melbourne, 1926); Use and abuse of statistics (Melbourne Univ. Com. Students' Soc., 1933); Univ. of Western Australia Text Books Bd., 1944). Dir. W.W. in Australia.
- MAURER, (Mrs.) Lucille Darwin, 1432 Girard St., N.W., Apt. 405, Washington 9, D.C. (1943) B. 1922; 1938-40, Woman's Col., North Carolina; A.B., 1942, North Carolina; M.A., 1945, Yale. Fields 10, 15d, 2.
- MAURER, William John, 108 Overlook Ave., Leonia, N.J. (1940) Baker & Co., exec., bus.; b. 1905; attended Oberrealschule (Germany), Faculté de Droit (Paris); M.A., 1935, New York. Fields 11, 10, 16.
- MAVERICK, Lewis Adams, 701 S. Oakland Ave., Carbondale, Ill. (1939) Southern Illinois Univ., prof., dept. head, teach.; b. 1891; B.S., 1913, Washington Univ.; Ed.D., 1925, Harvard; Ph.D., 1931, California. Fields 1b, 3a, 6. Doc. dis. Business cycles in real estate activity (three articles in Jour. of Land and Pub. Util. Econ., 1930). Pub. Time series analysis: smoothing by stages (1945). China: a model for Europe (1946) (Paul Anderson, San Antonio, Tex.); Vocational guidance of college students (Harvard Univ. Press, 1926). Res. Translation and editing of early Chinese economists or social writers.
- MAX, William David, 208 Sterling St., Brooklyn 25, N.Y. (1921) Samuel J. Tilden High School, Dept. of Econ., dept. head, teach.; b. 1886; B.A., 1910, Adelphi Col.; M.A., 1916, New York. Field 1a.
- MAXWELL, James Ackley, Clark Univ., Worcester, Mass. (1925) Clark Univ., prof., dept. head, teach., res.; b. 1897; A.B., 1921, Dalhousie Univ.; A.M., 1923, Ph.D., 1927, Harvard. Fields 9, 1a, 7. Doc. dis. Financial history of Nova Scotia. Pub. Fiscal impact of federalism in U.S. (1946), Federal subsidies to provincial governments in Canada (1937) (Harvard Univ. Press); Recent developments in dominion-provincial fiscal relations in Canada (Nat. Bur. of Econ. Res., 1948). Dir. W.W. in Amer.
- MAY, Alonzo Beryl, Univ. of Denver, Denver, Colo. (1947) Univ. of Denver, prof. of econ. and fin.; Teaching Inst. of Econ. (Alfred P. Sloan Found.), dir., dept. head; teach., res.; b. 1906; B.S., 1927, Kansas State Teachers Col.; A.M., 1935, Kansas; Ph.D., 1937, Iowa. Fields 5, 10, 9. Doc. dis. Tax exemption in U.S. Pub. "Tax exemption in U.S.," Jour. of Land and Pub. Util. Econ., Nov., 1938; "Atomic energy and the liberal arts," School and Soc., Aug. 24, 1946; "Depression in 1950?—a challenge," Com. and Fin. Chron., June 19, 1947. Res. You can buy peace; economics of management; teaching of economics. Dir. W.W. in West, Dir. of Schol.
- MAY, Donald Johnson, School of Bus. Admin., Emory University, Ga. (1947) Emory Univ., instr., teach.; b. 1915; A.B., 1938, Centre Col.; M.A., 1947, Cincinnati. Field 13b.
- MAY, Elizabeth Stoffregen (Mrs. Geoffrey), 240 S. Mountain Ave., Montclair, N.J. (1935)
- MAY, George Oliver, 56 Pine St., New York, N.Y. (1908)
- MAY, John Wesley, 219 E. Wheeling St., Washington, Pa. (1940) Washington and Jefferson Col., asso. prof., teach.; b. 1911; A.B., B.S., 1933, M.A., 1939, Missouri; Ph.D., 1946, Pittsburgh. Fields 12b, 16, 1a. Doc. dis. Federal Trade Commission's standards of economic control. Dir. W.W. in Labor.
- MAY, Richard Arnold, R.F.D., Saluda, Va. (1927) Bus., res., govt. serv.; b. 1896; A.B., 1918, M.B.A., 1920, Harvard. Fields 11ab, 12, 15abed. Pub. Trade association activities (U.S. Dept. of Com., 1923).
- MAY, Stacy, 21 E. 66th St., New York, N.Y. (1920)
- MAY, Todd, Jr., 3 Eldorado Pl., Weehawken, N.J. (1947) Econometric Inst., anal., res.; b. 1926; B.S., 1947, Northwestern; 1947-48, Columbia. Fields 3c, 1, 14a.
- MAYER, Joseph, 722 Jackson Pl., N.W., Washington 6, D.C. (1921) Brookings Inst., sr. staff memb., res.; b. 1887; 1907-10, Texas; A.B., 1911, LL.D., 1929, Southwestern Univ. (Tex.); A.M., 1914, Harvard; Ph.D., 1922, Columbia. Fields 1a, 5, 15ac. Doc. dis. Regulation of commercialized vice (Kiebold Press, New York, 1922). Pub. Metric versus English system of weights and measures (1921), Seven seals of science (rev. 1937) (Century Co.); Social science principles in light of scientific method with particular application to modern economic thought (Duke Univ. Press, 1941). Res. Productive efficiency in American manufacturing;

natural resource potentials in U.S.; development of national income and product concepts. Dir. W.W. in Amer., in Engineering, Authors' and Writers' W.W., Dir. of Schol., Lead. in Educa.

MAYER, Joseph H., 1228 Eye St., N.W., Apt. 711, Washington 5, D.C. (1943)

MAYER, Lawrence A., 139-16 88th Rd., Jamaica 2, N.Y. (1948) Nat. Ind. Conf. Bd., econ. anal., res., edit.; b. 1918; B.S. in S.S., 1940, City of New York. Fields 14a, 10, 5. Pub. "Integration in retail food distribution," Nov., 1946, "European recovery program," Jan., Feb., May, 1948, "No comeback in silk," Apr., 1948, Conf. Bd. Bus. Record.

MAYER, Leo Kenneth, 6 Polo Rd., Great Neck, L.I., N.Y. (1935) Manufacturers Machine and Tool Co., comptroller, dir. of labor rela., bus., res.; b. 1897; L.L.B., 1918, New York Law School; 1921, 1942-44, New York Univ. Fields 11c, 16, 13b. Pub. Receivership plan for labor disputes (Personnel, 1946); Massachusetts savings bank life insurance (1934); "Rhapsody of rails," Plain Talk, 1937. Res. Imponderables of labor economics.

MAYER, Robert Wallace, Univ. of Illinois, Dept. of Econ., Urbana, Ill. (1933) Univ. of Illinois, asso. prof., teach.; b. 1909; B.S., 1930, M.S., 1931, Ph.D., 1933, Illinois. Fields 8ab, 13ab, 7. Doc. dis. Trading on equity by public utility operating companies. Pub. First report on tax and financial problems of Pennsylvania (in part) (Pa. Jt. State Govt. Com., 1941). Dir. Dir. of Schol.

MAYER, Thomas, 135 W. 80th St., New York 24, N.Y. (1946) B. 1927; B.A., 1948, Queens Col. Fields 1a, 6, 7.

MAYES, Harland Fryer, Mercantile Bank Bldg., Dallas 1, Tex. (1947) Rauscher Pierce and Co., Invest. Anal. Dept., mgr.; b. 1899; A.B., 1921, Missouri; M.B.A., 1923, Harvard. Fields 8, 13, 7.

MAYHILL, Roger, 150 N. Grant St., West Lafayette, Ind. (1945) Purdue Univ., asst. prof., teach.; b. 1908; B.S., 1932, Purdue; M.A., 1936, Ph.D., 1942, Illinois; 1946, New York. Fields 2, 12, 13. Doc. dis. Joseph G. Cannon as Speaker of House, 1903-07. Pub. Air freight potentials in New York ready to wear industry (Fairchild Aircraft, 1946). Res. Economic history of air transportation.

MAYNARD, Eugene Leslie, 1414 Gregory, Wilmette, Ill. (1929) Ill. Dept. of Revenue, Property Tax Div., supv., govt. serv., teach.; b. 1904; B.A., 1927, M.B.A., 1931, Kansas; 1933-34, Northwestern. Field 9.

MAYNARD, Harold Howard, Ohio State Univ., Col. of Com. and Admin., Columbus 10, Ohio. (1921) Ohio State Univ., Col. of Com., Dept. of Bus. Org., dept. head, prof. of mktg., teach.; b. 1889; B.A., 1912, Iowa State Teachers Col.; A.M., 1915, Iowa; M.A., 1919, Harvard; Ph.D., 1922, Iowa. Fields 11ab, 12b. Pub. Principles of marketing (with Beckman) (4th ed., 1946), Sales management (with Nolen) (1941), Introduction to business management (with Weidner and Burley) (3rd ed. 1941) (Ronald Press). Dir. W.W. in Amer.

MAYNE, Alvin, 76 Brighton Ave., Bloomfield, N.J. (1946) Moody's Investors Serv., Econ. Consult. Sec., head, res., bus.; b. 1914; B.A., 1935, M.B.A., 1938, 1938-40, Chicago. Fields 6, 3, 14. Pub. Quartermaster requirements and supply control computations (Office of Quartermaster General, 1945); "Flexibility of hours and employment," Proceed., Va. Acad. of Sci., May, 1947; "Influence of environmental factors on pulmonary tuberculosis," Amer. Rev. of Tuberculosis, May, 1944. Res. Methods of business cycle forecasting.

MAYNES, E. Scott, 23 Carpenter Ave., Meriden, Conn. (1947) Wesleyan Univ., grad. fellow, res., teach.; b. 1922; B.S., 1947, Springfield Col. (Mass.); 1946-47, Mt. Holyoke; 1947-48, Wesleyan. Fields 17d, 9, 4a. Res. Alleged regressivity of retail sales tax in Connecticut.

MAYO, Robert P., 111 Glenridge St., Kensington, Md. (1943)

MCALLISTER, Philip S., 0229 S.W. Palatine Hill Rd., Portland 1, Ore. (1942)

MCBRIDE, John Wesley, 3504 Third St., N.,

Arlington, Va. (1929) State Dept., Petroleum Div., Produc. Br., asst. chief, govt. serv.; b. 1903; 1921-22, Yale; A.B., 1929, Ohio Univ.; M.A., 1930, 1930-31, Princeton. Fields 12b, 15c, 10. Res. Agricultural versus industrial prices, 1921-29 (doc. dis.)

MCCABE, David Aloysius, Herrontown Rd., Princeton, N.J. (1909)

MCCAHAHAN, David, 607 Strath Haven Ave., Swarthmore, Pa. (1934)

*MCCALLEY, John Wallace, 1900 F St., N.W., Apt. 702, Washington 6, D.C. (1945) George Washington Univ., teach. fellow in econ., teach.; b. 1916; 1934-36, Los Angeles City Col.; 1936-40, California; A.B., 1945, M.A., 1947, George Washington. Fields 1a, 16, 13b.

*MCCARTNEY, Kenneth Hall, Univ. of Minnesota, School of Bus. Admin., Minneapolis 14, Minn. (1948) Univ. of Minnesota, School of Bus. Admin., instr., teach.; b. 1924; B.A., 1945, Univ. of Manitoba; 1947-48, Minnesota. Fields 16, 1a, 2a.

*MCCAULEY, John Scott, 1118 Virginia Ave., S.W., Washington 4, D.C. (1948) U.S. Bur. of Labor Statis., labor econ., res., govt. serv.; b. 1917; B.A., 1939, M.A., 1940, Wisconsin; 1946-48, Harvard. Fields 16, 17ab, 4ab. Pub. "Measures taken in Great Britain to mobilize industrial manpower," Monthly Labor Rev., Dec., 1941; Occupational outlook information and long-range employment prospects for pharmacists (Govt. Prtg. Office, 1948). Res. Study of measures that might be taken to improve occupational distribution of nation's working population.

MCCLELLAND, Mary Elizabeth, Asso. of Life Ins. Presidents, 165 Broadway, New York, N.Y. (1941)

MCCLENTIC, Joseph Orace, San Diego State Col., San Diego 5, Calif. (1937)

MCCLOUD, Leland W., Austin Col., Sherman, Tex. (1947) Austin Col., Jones Prof. of Econ., dept. head, teach.; b. 1922; 1939-40, Texas Tech. Col.; 1945, Univ. of Colorado; B.S., 1943, M.S., 1947, North Texas State. Fields 1ac, 3c, 9.

MCCLUNG, Reid Lage, Univ. of Southern California, Los Angeles 7, Calif. (1915) Univ. of Southern California, Col. of Com., dean; b. 1885; A.B., 1904, L.L.D., 1940, Morris Harvey Col.; Ph.D., 1920, New York. Fields 1, 6, 4. Pub. Earning and spending (Codex Pub. Co., 1926); Industrial depressions, by G. H. Hull (rev. and edited, 1927). Dir. W.W. in Amer., Lead. in Educa.

MCCOLLOUGH, Elzy Vern, Tarkio Col., Tarkio, Mo. (1936)

MCCOMAS, Frederick William, Jr., 72 Webster St., Malverne, N.Y. (1946) Metropolitan Life Ins. Co., res. asso., res.; b. 1905; B.S., 1927, Virginia; 1930-33, New York. Fields 6, 10, 8b.

MCCONAGHA, William Albert, 932 E. Commercial St., Appleton, Wis. (1925) Lawrence Col., prof., teach.; b. 1890; B.S., 1917, Muskingum Col.; Ph.D., 1925, Illinois. Fields 16, 9, 4. Doc. dis. Labor movement in Great Britain, France, and Germany (Univ. of North Carolina Press, 1942).

MCCONNELL, Joseph Lawrence, Univ. of Illinois, Dept. of Econ., Urbana, Ill. (1942) Univ. of Illinois, asst. prof., teach.; b. 1906; B.A., 1928, Iowa State Teachers Col.; M.A., 1932, Kentucky; Ph.D., 1941, Iowa. Fields 1, 4, 5. Doc. dis. Economics of John A. Hobson. Pub. "Corporate earnings by size of firm," May, 1945, "1942 corporate profits by size of firm," Jan., 1946, Survey of Cur. Bus.

MCCORMACK, Alfred, 15 Broad St., New York 5, N.Y. (1941) Cravath, Swaine & Moore, partner, law, govt. serv., teach.; b. 1901; A.B., 1921, Princeton; L.L.B., 1925, Columbia.

MCCRACKEN, Duane, State Teachers Col., Mankato, Minn. (1946) State Teachers Col., asst. prof., teach.; b. 1894; A.B., 1918, Penn. Col.; A.M., 1920, Wisconsin; Ph.D., 1930, Minnesota. Fields 11, 16, 1. Doc. dis. Strike injunctions in new South (Univ. of North Carolina Press, 1931).

MCCRACKEN, E. M., Univ. of Miami, Coral Gables 34, Fla. (1946)

MCCRACKEN, Harlan Linneus, Louisiana State Univ., Baton Rouge, La. (1933) Louisiana State Univ., Dept. of Econ., dept. head, prof., teach.;

- b. 1889; B.S., 1914, Penn. Col.; B.S., 1915, Haverford Col.; Ph.D., 1923, Wisconsin. Fields lab, 6, 16. Doc. dis. Value theory and business cycles (McGraw-Hill, 1933). Pub. "An appraisal of possibility of plenty," Soc. for Adv. of Mgt. Jour., 1936; "Monopolistic competition and business fluctuations," 1938, "Economic contradictions," 1947, Southern Econ. Jour. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.
- MCCRACKEN**, Paul Winston, 73 S. Fifth St., Minneapolis 2, Minn. (1942) Fed. Res. Bank of Minneapolis, dir. of res., dept. head, res.; b. 1915; B.A., 1937, William Penn. Col.; M.A., 1943, Ph.D., 1948, Harvard. Fields 6, 7, 5. Doc. dis. Cyclical implications of wartime liquid asset accumulation. Pub. Hypothetical projection of expenditures for commodity groups based on past relationships to gross national product (Dept. of Com., 1943); The Northwest in two wars (1944), Rising tide of bank lending (1946) (Fed. Res. Bank of Minneapolis).
- MCCREA**, Roswell Cheney, 127 Second St., Garden City, N.Y. (1899)
- MCCREARY**, James W., 5838 Morningside St., Dallas 6, Tex. (1938) FHA, housing market anal.; Southern Methodist Univ., lecturer in econ.; govt. serv., teach.; b. 1912; A.B., 1936, Omaha; M.A., 1937, Univ. of Colorado; 1937-38, Southern California; M.P.A., 1944, Harvard. Fields 15d, 4b, 1a.
- MCCUTCHEN**, George, 817 Sumter St., Columbia, S.C. (1943)
- MCDANIEL**, Joseph Milton, Jr., c/o U.S. Embassy, Paris, France. (1948) Northwestern Univ., prof. of bus. admin. (on leave); Econ. Coord. Agency, spec. asst. to U.S. spec. ambassador abroad in charge East-West trade relations; teach., govt. serv., res.; b. 1902; A.B., 1924, Ph.D., 1930, Johns Hopkins; M.A. (Hon.), 1940, Dartmouth. Fields 11a, 12a, 4a. Doc. dis. Public inconvenience—a form of union pressure (Johns Hopkins, 1930). Pub. An introduction to social sciences (Appleton-Century, 1942); "Round and round the Townsend Plan," Johns Hopkins Mag., 1936. Res. Business organization. Dir. W.W. in East.
- MCDERMOTT**, Mary Elizabeth, 260 S. Broad St., Philadelphia 1, Pa. (1942) Atlantic Refining Co., res. asst. in econ., bus.; b. 1905; B.A., 1926, Dickinson Col.; 1927, Columbia; 1940-42, Pennsylvania.
- MCDIARMID**, Orville John, 4924 26th St., N. Arlington, Va. (1939) Dept. of State, Div. of Occupied Areas Econ. Affairs, Japanese-Korean Fin., head of sec., govt. serv.; b. 1909; B.Comm., 1932, M.A., 1933, Univ. of Toronto; Ph.D., 1936, Harvard. Fields 10, 1ac, 2b. Pub. Commercial policy in Canadian economy (Harvard Univ. Press, 1946); "Imperfect competition and international trade theory," in Essays in political economy in honour of E. J. Urwick (Univ. of Toronto Press, 1938); "Canadian tariff policy," Annals of Amer. Acad. of Polit. and Soc. Sci., Sept., 1947. Res. Japanese postwar finance.
- MCDONALD**, Joseph Lee, Hanover, N.H. (1925)
- MCDONALD**, Roy William, 2 Wall St., New York 5, N.Y. (1945) Donovan, Leisure, Newton, Lumbard & Irvine, law partner, bus.; b. 1905; LL.B., 1927, Texas; B.S.C., 1940, Southern Methodist; LL.M., 1941, Columbia. Fields 12, 7, 9. Dir. W.W. in East, in Com. and Ind.
- MCDONOUGH**, Charles A., 18 Tremont St., Boston, Mass. (1914)
- MEVOY**, Raymond Herron, 1158 E. 61st St., Chicago 37, Ill. (1947) Univ. of Illinois, asst. prof., teach., res.; b. 1922; B.A., 1942, M.A., 1947, Chicago. Fields 7, 1, 15b. Res. Effects of Federal Reserve policies, 1929-36 (doc. dis.).
- MEWEN**, Robert Joseph, Boston Col., Col. of Bus. Admin., Chestnut Hill 67, Mass. (1942) Boston Col., Col. of Bus. Admin., instr., teach., res., edit.; b. 1916; A.B., 1940, Boston Col.; M.A., 1943, Fordham; S.T.L., 1947, Weston Col. Fields 7, 1a, 6. Pub. "Monetary policy in a democracy," Mar. 13, 1948, "Essential monetary reform," Apr. 17, 1948, America. Res. Monetary influence in business cycles; applications of ethics to economics.
- McFARLAND**, M. Carter, Col. of St. Thomas, St. Paul 1, Minn (1947)
- McFEATERS**, Marvin C., OMG-Bavaria-Economics Div., APO 407, c/o Postmaster, New York, N.Y. (1941)
- McGANN**, Paul Williamson, Univ. of California, Dept. of Bus. Admin., Berkeley 4, Calif. (1942) Univ. of California, lecturer, teach., res.; b. 1917; A.B., 1938, Brown; 1938-40, Minnesota; 1940-41, Chicago. Fields 1ac, 3ab, 6. Res. Econometric analysis of firms (doc. dis.); economic fluctuations.
- McGARRY**, Edmund Daniel, Univ. of Buffalo, Buffalo, N.Y. (1923) Univ. of Buffalo, prof. of econ. and mktg., dept. head, teach., res.; b. 1891; A.B., 1914, West Virginia; M.B.A., 1921, Harvard; Ph.D., 1930, Columbia. Fields 11ab, 13b. Doc. dis. Mortality in retail trade (Univ. of Buffalo, Bur. of Bus. and Soc. Res., 1930). Pub. Consumers' buying habits in satellite cities (1932), Retail trade areas in Buffalo (1932), Population shifts in Buffalo (1935) (Univ. of Buffalo, Bur. of Bus. and Soc. Res.). Res. Functions of marketing.
- McGINLEY**, James Joseph, 221 N. Grand Blvd., St. Louis 3, Mo. (1942) St. Louis Univ., instr., teach., res., edit.; b. 1910; B.A., 1933, M.A., 1934, S.T.L., 1941, Woodstock Col.; M.A., 1937, Fordham; Ph.D., 1947, Columbia. Fields 16, 1a, 13b. Doc. dis. Rapid transit in New York City, 1904-44, industry and worker.
- McGOWAN**, Dorothy L., Macfadden Publications, Inc., 205 E. 42nd St., New York 17, N.Y. (1946) Macfadden Publications, statis. anal., res.; b. 1924; A.B., 1946, 1947-48, New York. Fields 7, 5, 6.
- McGRATH**, Lawrence Philip, Univ. of Georgia, Col. of Bus. Admin., Athens, Ga. (1948)
- McGRATH**, William Henry, Yarrow Point, Bellevue, Wash. (1919)
- McGRAW**, Booker Tanner, 3036 Park Pl., N.W., Washington 1, D.C. (1931) Housing and Home Fin. Agency, deputy asst. to admin.; Lincoln Univ. (Mo.), registrar, dept. head, prof. of econ. (on leave); govt. serv.; b. 1898; A.B., 1923, Atlanta; A.M., 1924, M.B.A. 1926, Michigan; A.M., 1934, Ph.D., 1939, Harvard. Fields 7, 10, 15c. Doc. dis. French monetary policy, 1927-38. Pub. "Wartime employment, migration and housing of Negroes," Lincoln Univ. Jour., June, 1948; "Negroes as business enterprisers" (with J. A. Pierce), in Where the Negro stands today (Holt, 1947); "The house I live in" (with F. S. Horne), Opportunity, Summer, 1946. Res. Negroes as credit risks in home finance. Dir. Lead. in Educa.
- McGREGOR**, George F., Box 350, East Lansing, Mich. (1947) Michigan State Col., instr., teach., res.; b. 1920; A.B., 1942, M.A., 1947, Michigan State Col. Fields 9, 6, 1a.
- McGREGOR**, Harlan E., 3828 S. Capitol St., Washington 20, D.C. (1937) U.S. Treas., Bur. of Int. Rev., prin. econ. govt. serv., res.; b. 1908; B.A., 1934, M.A., 1935, summers, 1936-41, Iowa. Fields 6, 1ab, 9. Res. Textile price control during the war.
- McGREW**, John Gilbert, Fenn Col., Cleveland 15, Ohio. (1941) Fenn Col., Dept. of Econ., dept. head, prof. of econ., teach.; b. 1910; A.B., 1932, West Virginia Inst. of Tech.; M.A., 1937, West Virginia; Ph.D., 1942, Illinois. Fields 7, 1, 8. Doc. dis. Scope and significance of monetary and banking investigations in U.S. and Great Britain since 1900.
- McGUIRE**, Carl Wilburn, Univ. of Colorado, Dept. of Econ., Boulder, Colo. (1937) Univ. of Colorado, asst. prof. of econ., teach., res.; b. 1911; B.A., 1935, M.A., 1938, Univ. of Colorado; Ph.D., 1939, Missouri. Fields 10, 4a, 1a. Doc. dis. Economics of community bonus (Univ. Microfilms, Ann Arbor, 1939). Res. American policy in economic relations with U.S.S.R.
- McGUIRE**, Christine Harrison, 2331 E. 67th St., Chicago 49, Ill. (1941) Univ. of Chicago, asst. prof., examiner, teach., res.; b. 1918; B.A., 1937, Muskingum; M.A., 1938, Ohio State; 1938-41, Chicago. Fields 1a, 6, 10.

- McGUIRE, Constantine Edward, Cosmos Club, 1520 H St., Washington, D.C. (1922)
- McHUGH, Thomas F., 5303 38th Ave., Hyattsville, Md. (1946) Univ. of Maryland, asst. prof., teach., res.; b. 1911; S.B., 1933, 1933-34, Harvard; 1946, 1947, 1948, American. Fields 6, 7, 11b. Res. Utilization of manpower resources under conditions of full employment.
- McILWAIN, Bob Alexander, Tng. Aids Dept., T School, Ft. Eustis, Va. (1948) Transportation Corps, U.S. Army, 1st Lt., T.C.(R.A.), govt. serv.; b. 1920; B.S., 1938, 1947-48, Oklahoma A. and M. Fields 13, 11, 2. Res. Military potentials of commercial traffic (master's thesis).
- McINTYRE, Francis Edgar, 7415 Lynnhurst St., Chevy Chase 15, Md. (1938) U.S. Dept. of Com., Office of Int. Trade, asst. dir., govt. serv.; b. 1909; A.B., 1931, Stanford; Ph.D., 1941, Chicago. Fields 3, 10, 1 ac. Doc. dis. Pattern of corporate earnings—a statistical analysis (Indiana Univ. Press, 1942). Pub. "Wholesale price indexes," Jour. of Amer. Statist. Asso., June, 1941.
- McISAAC, Archibald MacDonald, 304 Farmer St., Syracuse 3, N.Y. (1925) Syracuse Univ., prof., teach., res.; b. 1903; 1919-22, Geneva Col.; A.B., 1923, Michigan; M.A., 1924, Ph.D., 1930, Princeton. Fields 1a, 12, 13a. Doc. dis. Order of Railroad Telegraphers: a study of trade unionism and collective bargaining (Princeton Univ. Press, 1933). Pub. Introduction to economic analysis (with J. G. Smith) (1937). Social control of industry (with G. M. Modlin) (1938). Essential economic principles (with J. G. Smith) (1941) (Little, Brown & Co.). Res. National agricultural policy with particular reference to cotton. Dr. Dir. of Schol.
- McIVOR, (Russel) Craig, McMaster Univ., Dept. of Econ., Hamilton, Ont., Canada. (1948) McMaster Univ., asso. prof. of econ. teach., res.; b. 1915; B.A., 1937, Univ. of Western Ontario; M.A., 1939, Ph.D., 1947, Chicago. Fields 7, 1a, 2a. Doc. dis. Monetary expansion and Canadian war finance, 1939-45 (Univ. of Chicago, 1947). Pub. "Canadian wartime fiscal policy, 1939-45," Canadian Jour. of Econ., Feb., 1948; "The 'new look' in public finance—Canada's inflation reconsidered," Saturday Night, May 29, 1948. Res. Historical development of Canadian banking theory and practice. Dir. Lead in Educa.
- McKAY, Marion K., Univ. of Pittsburgh, Pittsburgh, Pa. (1921)
- McKAY, Richard, 50 Victoria Circle, Newton Centre, Mass. (1943)
- McKEAN, Roland Neely, Vanderbilt Univ., Dept. of Econ., Nashville 4, Tenn. (1947) Vanderbilt Univ., asst. prof., teach., res.; b. 1917; 1935-37, Illinois; A.B., 1939, A.M., 1948, Chicago. Fields 6, 1a, 9. Res. Fluctuations in private claim-debt structure and monetary policy (doc. dis.); central planning versus market allocation of investment funds.
- McKEE, Captain William, Econ. and Bus. Found., New Wilmington, Pa. (1937)
- McKINLEY, David Hopwood, Pennsylvania State Col., State College, Pa. (1947) Pennsylvania State Col., asst. prof. of econ., teach., bus., res.; b. 1906; B.A., 1927, M.A., 1932, Pennsylvania State Col.; LL.B., 1932, Western Reserve. Field 7.
- McKINLEY, Gordon Wells, 1560 E. Broad St., Columbus, Ohio. (1946) Ohio State Univ., instr., teach.; b. 1915; B.A., 1938, McMaster Univ.; M.A., 1940, Ph.D., 1948, Ohio State. Fields 7, 10, 2a. Doc. dis. Period of crisis in Federal Reserve System, 1930-37. Pub. "Residual item in balance of international payments," A.E.R., June, 1941.
- McKINLEY, Samuel Justus, 28 Farmington Ave., Longmeadow, Mass. (1928)
- McKINNEY, David Hampton, Box 163, University, Miss. (1936) Univ. of Mississippi, Bur. of Bus. Res., asst. dir., asso. prof. of econ., teach., res.; b. 1907; B.S., 1929, Eastern Kentucky State Col.; M.A., 1933, Ph.D., 1936, Kentucky. Field 9. Doc. dis. Some aspects of Kentucky classified property tax. Res. Directory of Mississippi manufacturers; digest of Mississippi tax laws.
- *McKINNEY, George Wesley, Jr., 705 Maple St., Charlottesville, Va. (1947) B. 1922; A.B., 1942, Berea Co.; M.A., 1947, 1947-48, Virginia. Fields 7, 1a, 6.
- McKINSTRY, William John, 515 Seymour Ave., Lansing 15, Mich. (1947)
- *McKNIGHT, John, 237 W. 15th St., New York 11, N.Y. (1946)
- McLAREN, Walter Wallace, Williams Col., Williamstown, Mass. (1911)
- McLAUGHLIN, Glenn Everett, 3053 Ordway St., N.W., Washington 8, D.C. (1929)
- *McLAUGHLIN, Russell U., 4414 Howell St., Philadelphia 24, Pa. (1948)
- *McLEAN, Charles Graham, 729 22nd St., N.W., Washington 7, D.C. (1947)
- McMANUS, Thomas Francis, MCGTXI, Air Force Inst. of Tech., Wright-Patterson AF Base, Dayton, Ohio. (1935) Col. of Ind. and Engr. Admin., dean, teach.; b. 1902; B.S., 1925, Northwestern; M.A., 1933, Ph.D., 1934, Iowa. Fields 7, 1a, 6. Doc. dis. Banking and business cycle: study of great depression in U.S. Pub. Banking and business cycle (with others) (Macmillan, 1937); American sea power since 1775 (with others) (Lippincott, 1947). Res. Economics of government regulation of business; readings in Keynesian economics. Dir. Dir. of Schol.
- McMARTIN, (Samuel Thomas) Arthur, 64 Lisgar St., Merrylands, N.S.W., Australia. (1947) Sydney Tech. Col., lecturer; N.S.W. Dept. of Educa., teacher; teach., res.; b. 1905; B.Sc. (Econ.), 1942, Univ. of London; M.Ec., 1947, Univ. of Sydney. Fields 16, 1a, 17b. Res. Economics of Australian arbitration (doc. dis., Univ. of London).
- McMILLAN, S. Sterling, Western Reserve Univ., 167 Public Sq., Cleveland 14, Ohio. (1943) Western Reserve Univ., asst. prof., teach., res.; b. 1907; A.B., 1929, Princeton; M.B.A., 1932, Harvard; Ph.D., 1948, Indiana. Fields 12, 9, 8ab. Doc. dis. Adjustments of individual firm prices under wartime price control. Pub. Problems in price control: pricing standards (with others) (Govt. Prtg. Office, 1948).
- McMILLAN, Thomas Ellwood, Jr., 232 Melrose, Corpus Christi, Tex. (1943) Texas Col. of A. and L., asst. prof. of fin., teach.; b. 1924; B.B.A., 1947, M.A., 1948, Texas. Fields 9, 7.
- McMULLAN, Wilbur Neal, 504 Custis Rd., Glenside, Pa. (1931)
- McMURRAY, Joseph P., R.F.D. 1, Box 202, Vienna, Va. (1944)
- McNAIRY, Lyles Glenn, 1731 20th St., N.W., Washington 9, D.C. (1948) U.S. Treas. Dept., Bur. of Int. Rev., Bus. and Ind. Res. Div., prin. econ.; b. 1910; B.S., 1931, M.A., 1933, 1933-34, South Carolina.
- McNATT, Emmett B., Univ. of Illinois, 327 David Kinley Hall, Urbana, Ill. (1934) Univ. of Illinois, prof. of econ., teach., res.; b. 1902; A.B., 1925, Missouri; A.M., 1929, Ph.D., 1932, Cornell Univ. Fields 16, 1. Doc. dis. Industrial relations on Lehigh Valley Railroad. Pub. "Labor and anti-trust laws," Aug., 1941, "Toward a national wartime labor policy: the wage issue," Feb., 1943, J.P.E.; "Appropriate bargaining unit problem," Q.J.E., Nov., 1941. Res. Economics of trade unionism.
- McNEILL, Clarence Ernest, Univ. of Nebraska, Econ. Dept., Lincoln 8, Neb. (1919) Univ. of Nebraska, Econ. Dept., prof., dept. head, teach., res.; b. 1889; A.B., 1912, Doane Col.; Ph.D., 1928, Yale. Fields 13, 1ab, 6. Doc. dis. Survey of municipal and water systems in Nebraska. Pub. Municipal electric and water systems in Nebraska (No. 41, 1938), Nebraska's electric power development in relation to municipal service (with H. F. Jones) (No. 44, 1939) (Neb. Studies in Bus., Univ. of Nebraska). Res. Dynamic tendencies in the economy.
- McNEILL, John Wilson, 20528 Morewood Pkwy., Rocky River 16, Ohio. (1946)
- McPETERS, (William) Liddon, 1009 Jackson St., Corinth, Miss. (1945) Security Bank, vice-pres., cashier, bus.; b. 1922; B.A., 1943, Vanderbilt; A.M., 1945, Ph.D., 1947, Harvard. Fields 7,

15abd, 10. Doc. dis. Credit in southern agriculture: role of credit in improvement and conversion of farm economy of South.

MCPHERSON, James Roland, Boston Univ., Col. of Bus. Admin., 685 Commonwealth Ave., Boston, Mass. (1946)

MCPHERSON, William Heston, 405 N. Prospect Ave., Champaign, Ill. (1923) Univ. of Illinois, Inst. of Labor and Ind. Rel., prof. of econ. res., teach.; b. 1902; A.B. 1923, Harvard; M.A., 1924, Ohio State; 1926-27, Univ. of Paris; Ph.D., 1935, Chicago. Fields 16, 17bc, 4. Doc. dis. Works councils in German factories. Pub. Labor relations in automobile industry (Brookings Inst., 1940); How collective bargaining works (contrib.) (Twentieth Century Fund, 1942); "Industrial relations in Japan under the occupation," Amer. Labor Yearbook, 1948. Res. National War Labor Board experience with tripartitism; labor-management relations in grain processing industry of Decatur, Ill. Dir. W.W. in Amer. (sup.), Dir. of Schol.

MCPHERSON, William Kenneth, 2603 McCalla Ave., Knoxville, Tenn. (1948) TVA, Ind. Econ. Br., chief, govt. serv.; b. 1904; 1921-22, Coe Col.; B.S., 1925, Parsons Col.; M.S., 1940, Iowa State Col. Fields 12, 15, 14. Pub. Power alcohol from farm products: its chemistry, engineering and economics (with G. Shepherd, L. T. Brown, and R. M. Hixon) (Ia. Agric. Exp. Sta., 1940); General appraisal of livestock industry in southeastern states (Ala. Poly. Inst., 1942); "Industrial trends in Tennessee Valley" (with L. C. Copeland), Soc. Forces, Mar., 1946. Res. Analysis of industry in Tennessee Valley.

***MCPHERSON, Woodrow Wilson**, 1707 Lowell Rd., Harvardens Village, Fort Devens, Mass. (1946) Harvard Univ., Dept. of Econ., student (temporary); U.S. Dept. of Agric., Bur. of Agric. Econ., econ.; res., govt. serv.; b. 1917; B.S., 1938, North Carolina State Col.; M.S., 1940, Louisiana; 1947-48, Harvard. Fields 15ab, 1ab, 3a. Res. Economic study of agriculture in southern Piedmont area of North Carolina.

***MCRAITH, James Frederick**, State Univ. of Iowa, Col. of Com., Iowa City, Iowa. (1946) Univ. of Iowa, asst. prof., teach.; b. 1918; B.S.C., 1940, M.A., 1947, Iowa; 1947-48, Columbia. Fields 11b, 12a, 1. Res. Wholesale trading areas.

MCVAY, Francis Edward, North Carolina State Col., Raleigh, N.C. (1946) Univ. of North Carolina, North Carolina State Col. of Agric. and Engr., asst. prof., teach., res.; b. 1917; B.S., 1942, Rhode Island State Col.; M.S., 1944, North Carolina State Col.; Ph.D., 1946, North Carolina. Fields 15ab, 3ab, 1a. Doc. dis. Impact of industrialization upon agriculture in two North Carolina Piedmont counties (N.C. Agric. Exp. Sta., Tech. Bul. 83, 1947). Pub. "Sampling methods applied to estimating numbers of orchards in a commercial peach area," Jour. of Amer. Statis. Asso., Dec., 1947. Res. Agricultural-industrial relations.

MCVEY, Frank Le Rond, 249 Shady Lane, Lexington, Ky. (1895)

MCWHINNEY, Madeline Houston, Fed. Res. Bank, New York 45, N.Y. (1947) Fed. Res. Bank of N.Y., econ. res.; b. 1922; B.A., 1943, Smith Col.; M.B.A., 1947, New York. Fields 7, 9, 8.

MEACHAM, Chauncey W., Spring Valley, Wis. (1947)

MEAD, Edward Sherwood, Univ. of Pennsylvania, Wharton School, Philadelphia, Pa. (1934)

MEANS, Gardiner Colt, R. 1, Box 43, Vienna, Va. (1926)

MEARS, Charles David, 4434 1st St., N.E., Washington 11, D.C. (1945) Acacia Mutual Life Ins. Co., bus.; b. 1923; B.A., 1945, Maryland; 1945-47, American. Fields 11a, 15ad, 8c.

MECKLING, William Henry, 1037 Cherokee St., Denver 4, Colo. (1947)

***MEDAY, Horace Henry**, Int. House, Box 457, Berkeley 4, Calif. (1947)

MEE, John Franklin, Indiana Univ., School of Bus., Bloomington, Ind. (1946) Indiana Univ., Mgt. Dept., dept. head, prof., teach., res.; b.

1908; A.B., 1930, Miami Univ.; A.M., 1933, Maine; 1935-39, Ohio State. Fields 11a, 16, 12b. Pub. "Factory budgets," in Production handbook (Ronald Press, 1942); "Personnel problems in war economy," in Economic problems of war (Wiley, 1941); Management organization for sound industrial relations program (Indiana Univ., Bur. of Bus. Res., 1948). Res. Contributions of Air Transport Command to development of personnel management (doc. dis.). Dir. W.W. in Arbitration.

MEEHAN, M. Joseph, U.S. Dept. of Com., Office of Bus. Econ., Washington 25, D.C. (1940) U.S. Dept. of Com., Office of Bus. Econ., acting dir.; b. 1901; B.S., 1927, Georgetown; 1935-37, 1938-42, Catholic; 1938, Harvard. Fields 6, 5, 3. Dir. W.W. in Com. and Ind., Int. W.W.

***MEEHLING, Charles F.**, 332 E. 90th St., New York 28, N.Y. (1945)

MEEK, Gertrude Pennington, Florida State Univ., Box 1077, Tallahassee, Fla. (1931)

MEEK, Howard Bagnall, Cornell Univ., Ithaca, N.Y. (1929)

MEEKER, Royal, 625 Whitney Ave., New Haven 11, Conn. (1903) B. 1873; B.S., 1898, Iowa State Col.; Ph.D., 1905, Columbia; LL.D., 1924, Ursinus Col. Fields 16, 7, 3a. Pub. "Minimum quantity budget for health and decency," June, 1920, "Social insurance: hazards of life," May, 1916, Monthly Labor Rev.; History and theory of shipping subsidies (A.E.A., Aug., 1905). Dir. W.W. in Amer., in New England.

MEHL, Paul, U.S. Dept. of Agric., Produc. and Mktg. Admin., Poultry Br., Washington, D.C. (1919)

MEHR, Robert Irwin, Univ. of Illinois, 405 David Kinley Hall, Urbana, Ill. (1947)

MEIER, Gerald Marvin, Univ. Col., Oxford, England. (1943) Oxford Univ., Rhodes Scholar (Ore.); b. 1923; B.A., 1947, Reed Col.; 1947-48, Harvard. Fields 6, 10, 1. Res. International aspects of trade cycle; Prof. Frisch's trade matrix.

MEINKOTH, (Mrs.) Marian Richards, 16 Oberlin Ave., Swarthmore, Pa. (1947) Temple Univ., asst. prof., teach.; b. 1914; B.Ed., 1935, Southern Illinois Normal Univ.; M.A., 1936, Ph.D., 1947, Illinois. Fields 16, 1a, 7. Doc. dis. Changes in provisions of collective bargaining agreements during World War II.

MEISLIK, Estelle, 378 Bleecker St., New York 14, N.Y. (1946) Long Island Univ., instr., teach.; b. 1919; B.A., 1945, Brooklyn Col.; 1945-46, New School for Soc. Res.; 1945-48, Columbia. Fields 10, 6, 1a. Res. Relation of equilibrium concept to business cycles.

MELCHER, William, Rollins Col., Winter Park, Fla. (1934) Rollins Col., prof. of bus. admin., teach.; b. 1880; A.B., 1911, Drury Col.; A.M., 1916, Harvard; Ph.D., 1931, Wisconsin. Fields 4a, 10, 11a. Doc. dis. Economics of crop production on Uncompahgre Reclamation Project (Univ. of Wisconsin, 1931). Pub. Human engineering and labor organizations (Rollins Col. and U.S. Dept. of Labor, 1940); Economics of crop production (Land and Pub. Util., 1934); Public school administration and library readings (Pub. School Admin., 1927). Res. Methods of bringing about good industrial relations. Dir. W.W. in Amer.

MELDER, Frederick, 3633 S. E. Tenino St., Portland 2, Ore. (1934)

MELLIN, Gilbert Myer, Univ. of Pittsburgh, Dept. of Econ., Pittsburgh 13, Pa. (1940) Univ. of Pittsburgh, instr., teach., res.; b. 1915; A.B., 1940, Pittsburgh; 1940-41, Cincinnati. Fields 10, 2b, 12a. Res. Economic study of Free Territory of Trieste.

MELMAN, Seymour, Columbia Univ., Dept. of Ind. Engr., New York 27, N.Y. (1948) Columbia Univ., instr., teach., res.; b. 1917; B.S.S., 1939, City of New York. Fields 12, 11, 14. Pub. Paint and varnish industry (1944), Printing ink (1944), Chromite ore (1945) (Nat. Ind. Conf. Bd.). Res. Administrative overhead in manufacturing industry (doc. dis.).

MELNICOFF, David C., Fed. Res. Bank, Philadelphia 1, Pa. (1947) Fed. Res. Bank of Philadelphia, econ., res., edit., teach.; b. 1919; B.A., 1941, 1946-48, Pennsylvania. Fields 12, 14, 7.

- MELTON, Rosser B., Box 6132 T.C. Sta., Denton, Tex. (1945) North Texas State Col., prof., teach., res.; b. 1910; B.S., 1934, Stephen F. Austin Teachers Col.; M.A., 1938, Ph.D., 1940, Texas. Fields lab, 16, 17b. Doc. dis. Theory of value in economics as a rationalization of social status. Pub. "Determinants of full employment," S.W. Soc. Sci. Quar., 1946. Res. Measurement of flow resource magnitudes; relation to flow resource magnitudes to monopolistic economic behavior.
- MELTZER, Bernard Charles, 5728 Thomas Ave., Philadelphia 43, Pa. (1948) Self-employed, bus., res.; B.C.E., 1938, City of New York; M.A., 1948, Pennsylvania. Fields 15de, 14b.
- MENDELL, Herbert Charles, 140 Bay 34th St., Brooklyn 14, N.Y. (1948) Loft Candy Corp., sales anal., bus., res.; b. 1922; B.B.A., 1944, City of New York; M.B.A., 1947, New York. Fields 3c, 11b, 6.
- MENDELSON, Morris, Cornell Univ., Dept. of Econ., Ithaca, N.Y. (1947) Cornell Univ., teach. fellow, teach.; b. 1922; B.A., 1946, Queen's Univ. Fields 1a, 3a, 7. Res. Consumption function.
- MENDERSHAUSEN, Horst, Harwood Hill, R.F.D. 1, Bennington, Vt. (1943) Bennington Col., prof., teach., res.; b. 1911; 1931-33, Freiburg, Berlin, Heidelberg; Ph.D., 1937, Univ. of Geneva. Fields 5, 10, 2. Doc. dis. Les Fluctuations du Mouvement Saisonnier dans l'Industrie de la Construction (Georg & Cie., Geneva, 1937). Pub. Economics of war (Prentice-Hall, 1941, 1943); Changes in income distribution during the great depression (Nat. Bur. of Econ. Res., 1946). Res. European co-operation and colonial development.
- MENDEZ M., Jorge Antonio, Calle 81, No. 9-25, Bogotá, Colombia, S. Amer. (1946) Universidad Nacional de Colombia, prof.; Facultad de Economía Industrial y Comercial, Gimnasio Moderno, prof., dir. of res.; teach., res.; b. 1921; Law and Econ., 1943, Universidad Javeriana; Master's in Econ., 1946, Princeton. Fields 1a, 10, 17a. Pub. "Economic behavior," Revista de la Universidad Nacional (Bogotá), 1946.
- MENDIETA, Francisco A., Quinta Mendieta; Managua, Nicaragua, C. Amer. (1939)
- MENGELBERG, (Mrs.) Kaethe, 148 N. Arlington Ave., East Orange, N.J. (1946) Upsala Col., asso. prof., dept. head, teach.; b. 1894; Ph.D., 1918, Heidelberg (Germany). Fields 17b, 4a, 2b. Doc. dis. Finanzpolitik der Sozialdemokratischen Partei (Bensheimer, Mannheim, 1919). Pub. Agrarpolitik (Teubner, Leipzig, 1931); "Stand und Klasse," Koelner Vierteljahrshette für Sociologie, 1924; "Subject matter of sociology in college education," Amer. Jour. of Econ. and Soc., 1946.
- MENNIS, Edmund Addi, Amer. Inst. for Econ. Res., Great Barrington, Mass. (1942) Amer. Inst. for Econ. Res., Invest. Div., sr. res. asst., dept. head, res., edit., teach.; b. 1919; B.A., 1941, City of New York; M.A., 1946, Columbia. Fields 8b, 13a, 14. Pub. How to invest wisely (1947, 1948), Investment trusts and funds (1948) (Amer. Inst. for Econ. Res.). Res. Long-term growth trends of industries.
- MERCHANT, Ely Othman, Box 465, Chino, Calif. (1910)
- MEREDITH, L(ewis) Douglas, 131 State St., Montpelier, Va. (1929) Nat. Life Ins. Co., exec. vice-pres., chmn., Com. on Fin., bus.; b. 1905; 1922-23, Bucknell; A.B., 1926, A.M., 1927, Syracuse; Ph.D., 1933, Yale. Fields 8, 7, 11. Doc. dis. Merchandising for banks, trust companies and investment houses (Bankers' Pub. Co., 1935). Pub. How to buy a house (Harper, 1947). Dir. W. W. in Com. and Ind., in Ins.
- MERIAM, Richard Stockton, Harvard Bus. School, Soldiers Field, Boston 63, Mass. (1914) Harvard Bus. School, prof. of bus. econ.; Standard Oil Co. (N.J.), consult.; b. 1893; A.B., 1914, Ph.D., 1921, Harvard. Fields 11, 12, 1. Doc. dis. Trade unionism in Germany, 1865-1914. Pub. Problems in business economics (with M. P. McNair) (McGraw-Hill, 1941); "Unemployment: its literature and its problems," Nov., 1931, "Supply curves and maximum satisfaction," Feb., 1928, Q.J.E. Dir. W.W. in Amer.
- MERINO, Federico G., Int. Machinery Co. (Bolivia), S.A., Casilla 815, La Paz, Bolivia, S. Amer. (1947)
- MERKT, Oswald Eugene Decker, 926 Morgan Ave., Drexel Hill, Pa. (1942) Pa. Co. for Banking and Trusts, sr. invest. anal., res., bus., teach.; b. 1912; A.B., 1933, Dartmouth; M.B.A., 1937, Pennsylvania. Fields 8ab, 11ac, 14a.
- MERLIN, S. D., 9004 Kimes St., Silver Spring, Md. (1948)
- MERRILL, Ezra, 500 Rutherford Ave., Boston 29, Mass. (1938) H. P. Hood & Sons, sales res. dir., dept. head, bus., res.; b. 1909; A.B., 1930, Kalamazoo Col.; LL.B., 1933, 1937, Harvard. Fields 11ab, 12, 15b.
- *MERSKY, Roy Martin, 301 Huntington Ct., Madison 5, Wis. (1948) Univ. of Wisconsin, student, res.; b. 1925; B.S., 1948, Wisconsin. Fields 16, 4a, 12a.
- MERWIN, Charles Lewis, Int. Monetary Fund, 1818 H St. N.W., Washington 6, D.C. (1946) Int. Monetary Fund, Balance of Payments Div., econ., govt. serv., res.; b. 1912; B.A., 1934, Ohio Wesleyan Univ.; M.A., 1936, Ph.D., 1942, Pennsylvania. Fields 10, 5, 7. Doc. dis. Financing small corporations in five manufacturing industries (Nat. Bur. of Econ. Res., 1942). Pub. Financial structure of American manufacturing corporations (TNEC, 1940); "American studies of distribution of income and wealth" in Studies in income and wealth (Nat. Bur. of Econ. Res., 1939); "National income," Dun's Rev., 1942. Res. Balance of payments methodology and data.
- MERZBACH, L. H., 1412 Durham St., Brownwood, Tex. (1946)
- *MESMER, Theodore C., 29B, Badger, Wis. (1948)
- METZGER, Charles Robert, Asso. of Motion Picture Producers, 5504 Hollywood Blvd., Hollywood 28, Calif. (1929)
- METZGER, Jane Pierce, Wheaton Col., Norton, Mass. (1947)
- *METZGER, Judith, Univ. of Washington, Col. of Econ. and Bus., Seattle 5, Wash. (1947) Bur. of Bus. Res., res. asso., res., teach.; b. 1924; A.B., 1944, Vassar; 1946-47, Columbia; 1947-48, Univ. of Washington. Fields 9, 7, 10. Pub. American market for crude rubber (1947), General survey of coffee situation (1947) (Chase Nat. Bank Bus. Developments). Res. Development of trust institutions in state of Washington.
- METZLER, Lloyd Appleton, Univ. of Chicago, Dept. of Econ., Chicago 37, Ill. (1946) Univ. of Chicago, asso. prof., teach., res.; b. 1913; B.S., 1935, M.B.A., 1938, Kansas; M.A., 1941, Ph.D., 1942, Harvard. Fields 10, 6, 1a. Doc. dis. Inter-regional income generation. Pub. "Transfer problem reconsidered," J.P.E., June, 1942; "Exchange rates and International Monetary Fund," Post-war Studies No. 7 (Bd. of Gov. of Fed. Res. System), Sept., 1947; "Nature and stability of inventory cycles," Rev. of Econ. Statis., Aug., 1941. Res. Dynamic economics; inventory cycles.
- *MEYER, Balthasar Henry, 3327 P St., N.W., Washington, D.C. (1889)
- MEYER, Carl, 231 S. La Salle St., Chicago, Ill. (1918)
- MEYER, Claire Elizabeth, 2044 147th St., White-stone, L.I., N.Y. (1947) Ernst & Ernst, sr. accountant on audit staff, bus., res.; b. 1924; B.B.A., 1947, St. John's Univ.; 1947-48, Columbia. Fields 11c 6, 1a. Res. Economic and fiscal implications of European Recovery Program.
- *MEYER, Eugene, 1337-45 E St., N.W., Washington 4, D.C. (1910) Washington Post Co., chmn. of Bd.; b. 1875; 1892-93, LL.D., 1942, California; A.B., 1895, LL.D., 1932, Yale; LL.D., 1934, Syracuse. Dir. W.W. in Amer., in Com. and Ind., Int. W.W.
- MEYER, Rauer, 3369 S. Stafford St., Arlington, Va. (1943)
- MEYERS, Albert Leonard, 6413 Oakridge Ave., Chevy Chase 15, Md. (1930) Georgetown Univ., School of For. Serv., prof., teach., res.; b. 1904; A.B., 1925, Colgate; A.M., 1935, Ph.D., 1936, Harvard. Fields 1, 7, 10. Doc. dis. Future trading

on organized commodity exchanges. Pub. Elements of modern economics (1937, 3rd ed. 1948), Modern economic problems (1939, 2nd ed. 1948), Modern economics, elements and problems (1939, 2nd ed. 1948) (Prentice-Hall). Dir. Dir. of Schol.

MEYERS, Arthur Christian, 6337 Bancroft, St. Louis 9, Mo. (1947) St. Louis Univ., asst. prof.; St. Louis Police Dept., consult. status; teach., govt. serv.; b. 1914; B.C.S., 1936, M.C.S., 1937, St. Louis; 1937-38, summer 1947, Chicago. Fields 16, 7, 1a. Res. Retirement systems for municipal employees (doc. dis.); bibliographical study on retirement systems.

MEYERS, Frederic, 308 Forsyth Bldg., Atlanta, Ga. (1943)

MEYROWITZ, Alvin A. 4204 Kaywood Dr., Mt. Rainier, Md. (1940) U.S. Dept. of Com., Office of Dom. Com., Iron and Steel Div., asst. chief, govt. serv.; b. 1917; A.B., 1938, Cornell Univ.; M.B.A., 1941, New York. Fields 14ab, 11ab, 12.

*MICHAEL, Bernard, 1369 Sheridan St., N.W., Washington 11, D.C. (1948)

MICHAEL, John Francis, 3391 Spangler Rd., Cleveland Heights 12, Ohio. (1947) Firestone Tire and Rubber Co., mktg. res. asst., res., bus.; b. 1918; A.B., 1939, B.S. in L.S., 1940, M.A., 1942, B.B.A., 1948, Western Reserve. Field 11ab.

MICHALIK, Benjamin A., 227 N. Chestnut St., Summit Hill, Pa. (1947) St. Peter's Col., instr., teach.; b. 1917; A.B., 1940, St. Joseph's Col.; M.A., 1942, Fordham. Fields 1a, 10, 7. Res. An anthracite industry study (doc. dis.).

MICHEL, Rudolf Karl, 3 Dorchester Rd., Scarsdale, N.Y. (1929) Hunter Col., prof. of econ., teach., res.; b. 1901; 1919-20, Univ. of Giessen; J.D., 1923, Univ. of Cologne; A.M., 1927, Ph.D., 1928, Columbia; LL.B., 1941, Brooklyn Law School of St. Lawrence Univ. Fields 12b, 8b, 10. Doc. dis. Ist Ausser der Anfechtung Auch Die Kondition Eines Saldonanerkennnisse Möglich? (1923); Cartels, combines and trusts in postwar Germany (Columbia Univ. Press, 1928). Pub. Economic problems of modern society (with J. N. Andrews) (Ronald Press, 1937); Economics, basic principles and problems (Gregg Pub. Co., 1937); "Industrial aspects," in Planned society, yesterday, today, tomorrow (Prentice-Hall, 1937). Dir. W.W. in Amer. (sup.), in Com. and Ind.

MICHELSEN, Charles Patrick Andreas, 119A, St. Albans Rd., Flat No. 2, Watford, Herts., England. (1946) A. Lewis & Co. (Westminster), Ltd., asst. accountant, bus.; b. 1910; Associate, 1937, Chartered Inst. of Secretaries of Jt. Stock Co., Leeds Col. of Com. Fields 11c, 8a, 12a.

MICHELSEN, James Douglas, 30, Bristol Ave., Saltburn-by-the-Sea, Yorkshire, England. (1946) S. Chad's School, master; b. 1920; B. of Com. 1947, London Univ. Fields 3c, 17b, 11a.

MICOLEAU, H(enri) Le Brec, General Motors Corp., 1775 Broadway, New York 19, N.Y. (1935) General Motors Corp., asst. econ., bus.; b. 1909; A.B., 1929, Bowdoin Col.; 1930-32, Harvard. Field 6.

MIDDENDORF, Harry Stump, 19 Congress St., Boston 9, Mass. (1946) Wood Struthers & Co., bus.; b. 1893; A.B., 1916, Harvard; 1919, Univ. of Claremont-Ferrand (France). Fields 8b, 3a, 1a. Pub. Effect of war and postwar inflation upon fire insurance industry (privately printed, 1941). Dir. W.W. in Com. and Ind.

MIDDLETON, John James Innes, Econ. Soc. of South Africa, P.O. Box 929, Pretoria, S. Africa. (1946)

MIERNYK, William Henry, 1515 7th S. Boulder, Colo. (1946) Univ. of Colorado, instr., teach.; b. 1918; 1937-38, Fort Lewis Col.; B.A., 1946, M.A., 1947, Univ. of Colorado. Fields 1ab, 5, 16. Res. Income and productivity in Mountain States.

MIGHELL, Albert Thomas, R.R. 1, Yorkville, Ill. (1925)

MIKESELL, Raymond F., Colonnade Club Univ. of Virginia, Charlottesville, Va. (1936) Univ. of Virginia, prof. of econ.; Dept. of State, consult.; teach., govt. serv., res.; b. 1913; B.A., M.A., 1935, Ph.D., 1939, Ohio State. Fields 10, 7, 1a. Doc. dis. Marginal productivity theory and un-

employment. Pub. "Role of international monetary agreements in a world of planned economics," I.P.E., Dec., 1947; "ITO charter," A.E.R., June, 1947; "Regional multilateral payments arrangements," Q.J.E., Aug., 1948. Res. Middle East oil; postwar international economic problems.

MIKOLJON, Stanley John, 85 Rooney St., Clifton, N.J. (1933)

MILAM, Paul W., Univ. of Arkansas, Bus. Admin. Bldg., Fayetteville, Ark. (1940) Univ. of Arkansas, Col. of Bus. Admin., dean, prof.; b. 1902; B.A., 1923, Texas State Col.; M.B.A., 1926, Texas; D.C.S., 1933, New York. Fields 6, 8b, 4a. Pub. "Industrial development of Southwest," Southwestern Soc. Sci. Jour., 1941; "Income in South," Ark. Bus. Bul., 1942. Dir. Lead. in Educa.

MILERS, Stephen Royd, Jr., 2150 Elsinore, Los Angeles 26, Calif. (1944) Sexson-Miles, anal., writer, res., edit.; b. 1916; 1934-37, Los Angeles City Col.; B.J., 1939, M.A., 1940, Missouri; 1948, Southern California. Fields 15abde, 13ab, 11ab. Pub. Manual of foreign airlines (1944), Why airlines are underbought (with P. A. Sexson) (1947) (Lockheed Aircraft Corp.). Res. Economics of Colorado River water (doc. dis.); economics of air transportation.

MILLARD, Mark, 61 Broadway, New York 6, N.Y. (1944)

MILLER, A. Edward, Time, Inc., 9 Rockefeller Plaza, New York 20, N.Y. (1946) Time, Inc.-Life Mag., dir. of res.; Col. of City of New York, School of Bus., lecturer; res., teach.; b. 1918; M.B.A., 1942, City of New York. Fields 11b, 3a, 17a.

MILLER, Adolph Caspar, 2230 S St., N.W., Washington, D.C. (1901) Ford Motor Co., 3000 Schaefer Rd., Dearborn, Mich. (1942) Ford Motor Co., asst. treas., bus.; b. 1916; B.S., 1937, California at Los Angeles; 1938-41, California. Fields 8a, 7, 11a. Pub. Survey of economic activities and problems of Los Angeles and San Diego industrial areas (with A. G. Coons) (Calif. State Plan. Bd., 1942).

MILLER, Benjamin Orville, Box 482, Blacksburg, Va. (1938) Virginia Poly. Inst., prof. of econ.; b. 1898; B.A., 1923, Bridgewater Col.; M.A., 1924, Ph.D., 1937, Virginia. Fields 1ab, 7, 13b. Doc. dis. American Merchant Marine and protective tariff. Pub. "Protective tariff and American Merchant Marine," Southern Econ. Jour., Oct., 1937; "Transportation," in Virginia: economic and civic (Whittet and Shepperson, 1931). Dir. Dir. of Schol.

*MILLER, Donald Calvin, Univ. of California, Dept. of Econ., Los Angeles 24, Calif. (1948) Univ. of California at Los Angeles, lecturer, teach.; b. 1920; A.B., 1942, A.M., 1943, 1946-48, Illinois. Fields 9, 7, 4a. Res. Public debt and transfer problem: a comparison of federal tax structure and public debt structure (doc. dis.).

MILLER, Earl J., 405 Hilgard Ave., Los Angeles, Calif. (1947)

MILLER, Edmund Thornton, Univ. Sta., Austin 12, Tex. (1909) Univ. of Texas, prof., teach.; b. 1878; B.A., 1897, Weatherford Col.; B.A., 1909, M.A., 1901, Texas; M.A., 1903, Ph.D., 1909, Harvard. Fields 9, 7, 6. Pub. Financial history of Texas, 1821-1915 (Univ. of Texas, 1916); "State excise taxes," Proceed., Nat. Tax Assn., 1926; "Legal limitations on debts and taxes," Southwestern Polit. and Soc. Sci. Quar., Dec., 1928. Res. Financial history of Texas after 1915. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

MILLER, Ervin, 1132 S. 60th St., Philadelphia 43, Pa. (1946)

MILLER, (Mrs.) Frances M., 2707 Webster St., Mt. Rainier, Md. (1943)

MILLER, Glenn Wasson, Ohio State Univ., Dept. of Econ., Columbus 10, Ohio. (1936) Ohio State Univ., asst. prof., teach.; b. 1911; B.Ed., 1934, Southern Illinois Teachers Col.; A.M., 1935, Ph.D., 1939, Illinois. Fields 16, 4bc, 2a. Doc. dis. Labor policies of consumers co-operatives. Pub. American labor and government control (Prentice-

Hall, 1948); "Labor policies of consumers co-operatives," Q.J.E., 1941; "Unemployment and unemployability," Amer. Jour. of Econ. and Soc., 1948.

MILLER, (Mrs.) Helen Hill, 1098 Nat. Press Bldg., Washington, D.C. (1947)

MILLER, Henry Siefke, 42 Commerce St., New York 14, N.Y. (1936) Queens Col. asst. prof. of econ.; Columbia Univ., lecturer; teach. res.; b. 1901; A.B., 1924, M.A., 1929, Ph.D., 1938, Columbia. Fields 3, 4, 1. Doc. dis. Price control in Fascist Italy (Columbia Univ. Press, 1938). Pub. "Italian monetary policies under Fascism," A.E.R., Sept., 1940; "What happened when 200 families bought new homes," Jour. of Hous., Oct., 1947; "Techniques of price control in Fascist Italy" (with others), Polit. Sci. Quar., Dec., 1938.

MILLER, Herman P., 591 S. 20th St., Arlington, Va. (1947) Census Bur., statis., govt. serv.; b. 1921; B.S.S., 1942, City of New York. Fields 5, 17ad, 3c.

*MILLER, John Adalbert, R.D. 2, Ashtabula, Ohio. (1948) N.Y. State School of Ind. and Labor Rela., res. asst., res.; b. 1927; A.B., 1948, Columbia Col.; 1948, N.Y. State School of Ind. and Labor Rela. Fields 16, 12, 4. Res. Analysis of first and second round of wage increases.

MILLER, John Francis, R.F.D. 1, Box 208, Alexandria, Va. (1943) Nat. Plan. Asso., asst. dir.; b. 1908; A.B., 1929, M.A., 1930, Illinois; 1930-31, 1934-35, Columbia; 1931-33, Univ. of Frankfurt a.M. Fields 4ab, 9, 10.

MILLER, John Lester, Univ. of Wisconsin, 206 Extension Bldg., Madison 6, Wis. (1939) Univ. of Wisconsin, Univ. Ext. Div., dept. head, teach.; b. 1897; B.A., 1925, Penn. Col.; Ph.M., 1930, Ph.D., 1941, Wisconsin. Fields 13, 1, 7. Doc. dis. History of telephone industry as regulated business in Wisconsin.

MILLER, John Perry, Yale Univ., Dept. of Econ., New Haven, Conn. (1936) Yale Univ., asso. prof., teach. res.; b. 1911; B.A., 1932, M.A., 1934, Ph.D., 1937, Harvard. Fields 12, lab, 14. Doc. dis. Unfair competition: study in criteria for control of trade practices (Harvard Univ. Press, 1941). Pub. "Military procurement in peacetime," Harvard Bus. Rev., Summer, 1947; "Tactics of retail price control," Q.J.E., Aug., 1943; "Pricing of bituminous coal," in Public policy (Harvard Univ. Press, 1940). Res. Pricing of military procurements; theory of prices and markets. Dir. Dir. of Schol., W.W. in New England.

MILLER, John W., 264 Sheridan Rd., Winnetka, Ill. (1939)

*MILLER, John William, 6350 Garesche Ave., St. Louis 20, Mo. (1947) St. Louis Univ., School of Com. and Fin., instr., teach.; b. 1915; M.A., 1946, St. Louis. Field 9. Res. Study of rate of growth of tax exempt property in St. Louis, 1924-47 (doc. dis.)

MILLER, Merton Howard, 3937 S St., S.E., Washington 20, D.C. (1945) Bd. of Gov. of Fed. Res. System, govt. serv.; b. 1923; A.B., 1943, Harvard; 1946-48, George Washington. Fields 9, 7, 6. Pub. "Built-in flexibility" (with R. A. Musgrave), A.E.R., Mar., 1948.

MILLER, Paul Laird, 105 W. Mt. Ida Ave., Alexandria, Va. (1924)

MILLER, S(eymour) M(ichael), 184 W. 101st St., New York 25, N.Y. (1945) Rutgers Univ., instr., teach., res., edit.; b. 1922; B.A., 1943, Brooklyn Col.; M.A., 1945, Columbia; A.M., 1946, Princeton. Fields 16, 6, 7. Res. Analysis of human relations in industry approach; limitation of Keynesian approach.

MILLER, Shirley, 462 Williams Ave., Brooklyn 7, N.Y. (1947)

MILLER, Sidney Lincoln, Univ. of Pittsburgh, School of Bus. Admin., Pittsburgh 13, Pa. (1920) Univ. of Pittsburgh, School of Bus. Admin., prof., dept. head, teach., res.; b. 1890; A.B., 1912, Kansas State Teachers Col.; M.A., 1916, Ph.D., 1920, Wisconsin. Fields 13ab, 9, 12b. Doc. dis. Condition of railways immediately prior to World War I. Pub. Railway transportation: principles and point

of view (A. W. Shaw Co., 1924); Inland transportation (McGraw-Hill, 1933); Railways and labor: what price peace (Asso. Traffic Clubs of Amer., 1941). Res. Economic survey of West Central Texas; rate of return, railways, local utilities, and general business groups. Dir. W.W. in Amer.

*MILLER, Sidney Lincoln, Jr., Univ. of Pennsylvania, Wharton School, Philadelphia 4, Pa. (1945)

MILLER, Stanley Lawrence, 67 Riverside Dr., New York 24, N.Y. (1939) Fed. Res. Bank of N.Y., econ., res.; b. 1911; B.S., 1931, Syracuse; M.B.A., 1933, New York. Fields 8ab, 7. Res. Problem of equity financing; effectiveness of bond ratings as determinant of investment value; life insurance investments.

MILLER, Taulman Allaire, Indiana Univ., Dept. of Econ., Bloomington, Ind. (1936) Indiana Univ., asst. prof., teach., res.; b. 1910; A.B., 1931, Amherst; M.A., 1934, Ph.D., 1943, Yale. Fields 16, 17bc, 1. Doc. dis. Economic effects of experience rating provisions of Indiana Employment Security Act. Res. Social security.

MILLER, (Mrs.) Virginia Buckner, 301 E. 10th St., New York 9, N.Y. (1947) New York Univ., Washington Square Col., instr., teach.; b. 1921; A.B., 1941, A.M., 1942, Texas; 1942-44, Columbia. Fields lab, 6, 14b.

MILLIKAN, Max Franklin, Perkins Rd., R.F.D. 2, Woodridge, New Haven 15, Conn. (1937) Yale Univ., res. asso., asso. prof., res., teach.; b. 1913; B.S., 1935, Yale; 1935-36, Cambridge Univ. (England); Ph.D., 1941, Yale. Fields lac, 6, 13b. Doc. dis. Framework of theory of producer's sales policy. Pub. "Liquidity preference theory of interest," A.E.R., June, 1938. Res. Income stabilization for a developing democracy; empirical studies in determinants of investment decisions.

MILLS, Abbot Law, Jr., 1736 S.W. Prospect Dr., Portland 1, Ore. (1942) U.S. Nat. Bank, first vice-pres., bus.; b. 1898; A.B., 1921, Harvard. Fields 7, lab, 9.

MILLS, Frederick Cecil, Columbia Univ., New York 27, N.Y. (1920) Columbia Univ., prof. of econ. and statis.; Nat. Bur. of Econ. Res., memb. res. staff; teach., res., govt. serv.; b. 1892; B.L., 1914, M.A., 1916, LL.D., 1947, California; Ph.D., 1917, Columbia; 1919, London School of Econ. Fields 3, 6, 5. Doc. dis. Contemporary theories of unemployment (Columbia Univ. Press, 1917). Pub. Behavior of prices (1927), Economic tendencies in U.S. (1932) (Nat. Bur. of Econ. Res.); Statistical methods (Holt, 1924, 1938). Res. Prices in business cycles; industrial productivity. Dir. W.W. in Amer. Dir. of Schol.

MILLS, John Achilles, 1019 13th St., Wilmette, Ill. (1941)

MILLS, Mark Carter, Indiana Univ., Dept. of Econ., Bloomington, Ind. (1923) Indiana Univ., asso. prof., teach., res.; b. 1893; A.B., 1916, Earlham Col.; M.A., 1922, Indiana; Ph.D., 1924, Columbia. Fields 9, 1, 11. Doc. dis. Wood industries in New York and its environs (Reg. Plan of N.Y., 1924). Pub. Economics principles and problems (joint author) (Crowell, 4th ed. 1947); "Federal income and profits taxes," in Amer. Yearbook (Thomas Nelson & Sons, 1948). Res. Problems of medium-sized business. Dir. W.W. in Amer. Educa.

*MILLSTEIN, Jacob, 10 E. 138th St., New York 35, N.Y. (1947) B. 1921; B.S.S., 1942, City of New York; 1945-46, American; 1946-1948, Columbia. Fields 12a, 17d, 1a. Res. Problems in international real wage comparisons.

MILNE, Matilda L., 2700 Wisconsin Ave., N.W., Washington 7, D.C. (1947)

MILROY, Robert R., Indiana Univ., School of Bus., Bloomington, Ind. (1941)

*MINCIS, Albert Stephen, 75 Martense St., Brooklyn 26, N.Y. (1947) Columbia Univ., student; b. 1926; B.A., 1946, New York; M.A., 1948, Columbia. Fields 6, 8a, 3a.

MINSKY, Hyman P., 69 Dana St., Cambridge, Mass. (1945) Harvard Univ., teach. fellow, teach.; b. 1919; B.S., 1941, 1941-42, Chicago; M.P.A., 1947,

1947-48, Harvard. Fields 1ac, 7, 6.

MINTS, Lloyd Wynn, Univ. of Chicago, Chicago 37, Ill. (1922) Univ. of Chicago, asso. prof. of econ., teach., res.; b. 1888; A.B., 1914, A.M., 1915, Univ. of Colorado; 1919-23, Chicago. Fields 7, 6, 10. Pub. History of banking theory (Univ. of Chicago Press, 1945); "Monetary policy," Rev. of Econ. Statist., May, 1946. Res. Monetary policy.

MINTZES, Joseph, 1928 Belmont Rd., N.W., Washington 9, D.C. (1948) Bur. of Labor Statist., Office of For. Labor Conditions, labor econ., govt. serv., res., edit.; b. 1915; B.S.Fd., 1944, Temple; 1943-44, Cincinnati; 1946-48, American. Fields 16, 10, 1a. Pub. "Soviet Union: trends in prices, rations, and wages" (co-author), July, 1947, "Canada: wage trends and wage policies, 1939-47," Oct., 1947, "European labor force and ERP," (co-author), Dec., 1947, Monthly Labor Rev. Postwar developments in French labor movement.

MIRE, Joseph, 10 Lathrop St., Madison 5, Wis. (1943) Amer. Fed. of State, County, and Municipal Employees, A. F. of L., econ., dept. head, res., teach.; b. 1901; Dr. of Law and Econ., 1931, Univ. of Vienna. Field 16. Pub. "Conciliation and arbitration," Soziales Recht, 1935; "Collective bargaining in public service," A.E.R., 1946; "Labor in world crisis," Social Action, Sept., 1942. Dir. W.W. in Labor.

MISES, Ludwig, 777 West End Ave., New York 25, N.Y. (1924)

MITCH, George Frederick, 511 E. Hamilton Ave., State College, Pa. (1926) Pennsylvania State Col., asso. prof. of econ., teach., res.; b. 1885; B.A., 1910, Bucknell; M.A., 1914, Pennsylvania; 1922-23, Columbia. Fields 14a, 15d, 8ab. Res. Types of business organization among manufacturing establishments in Pennsylvania.

MITCHELL, Agnes Wilson (Mrs. S. Robert), 1020 19th St., N.W., Apt. 920, Washington 6, D.C. (1934) Amer. Nat. Red Cross, res. stat., res.; b. 1890; B.A., 1930, Geneva Col.; M.A., 1932, Ph.D., 1939, Pittsburgh. Fields 16, 3a, 17. Doc. dis. Labor relations in a large steel company. Pub. Reduction in hours of work (Oct., 1945), Adjustment of wage scales (Nov., 1945) (Nat. War Labor Bd.).

MITCHELL, Arthur, 49 High St., Middletown, Conn. (1946)

MITCHELL, Broadus, 313 W. 20th St., New York 11, N.Y. (1948) Rutgers Univ., lecturer, teach.; b. 1892; A.R., 1913, South Carolina; Ph.D., 1918, Johns Hopkins. Fields 2a, 4, 16. Doc. dis. Rise of cotton mills in the South (Johns Hopkins Press, 1921). Pub. General economics (Holt, 1937); American economic history (with L. P. Mitchell) (Houghton Mifflin, 1947); Depression decade (Rinehart, 1947). Res. Life of Alexander Hamilton. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.

MITCHELL, George Sinclair, 906 Lullwater Rd., N.E., Atlanta 6, Ga. (1931) Southern Regional Coun., Inc., exec. dir., res., edit., bus.; b. 1902; 1919-20, Delaware; A.B., 1923, Richmond; Ph.D., 1926, Johns Hopkins; 1926-29, Oxford Univ. (England). Fields 2, 16, 17. Pub. Textile unionism and the South (1930), Black workers and new unions (with H. Cayton) (1940) (Univ. of North Carolina Press). Dir. W.W. in Amer.

MITCHELL, George Wilder, 4717 Woodland Ave., Western Springs, Ill. (1930) Fed. Res. Bank of Chicago, tax econ., res., govt. serv.; B.A., 1925, Wisconsin; 1927-30 (part-time), Iowa; 1930-33 (part-time), Chicago. Fields 9, 13, 3c. Dir. W.W. in Illinois.

MITCHELL, Harry Adam, 2038 Pine St., New Orleans 18, La. (1933) Tulane Univ., prof., teach., res., bus.; b. 1897; A.B., 1925, M.B.A., 1926, Ph.D., 1944, Michigan. Fields 11ab, 1a, 16. Doc. dis. New Orleans as wholesale trading center. Res. Retailers' buying habits in Deep Central South.

MITCHELL, James M., 70 Oakland Pl., Buffalo, N.Y. (1914)

MITCHELL, John M., Tulane Univ., Col. of Com. and Bus. Admin., New Orleans 15, La. (1943) Tulane Univ., Col. of Com. and Bus. Admin., asst. prof., teach., res.; b. 1913; 1931-32,

1937-39, Balliol Col., Oxford; 1932-34, Harvard; A.B., 1941, M.A., 1942, 1946-47, Columbia. Fields 10, 9, 1a.

*MITCHELL, S. Robert, 1020 19th St., N.W., Apt. 920, Washington 6, D.C. (1944)

MITCHELL, Waldo F., 1508 N. 7th St., Terre Haute, Ind. (1920) Indiana State Teachers Col., Dept. of Soc. Studies, dept. head, prof., teach.; b. 1885; A.B., 1912, Indiana State Teachers Col.; A.M., 1913, Wisconsin; Ph.D., 1922, Chicago. Fields 7, 8a, 6. Doc. dis. Use of bank funds (Univ. of Chicago Press, 1925). Pub. "Bank reserves," in Encyclopaedia of Soc. Sci. (1930); "Liquidity of bank earning assets," J.P.E., Apr., 1923; "Interest rates as factors in business cycles," A.E.R., Mar. sup., 1928.

MITCHELL, Walter, Jr., 1 E. 42nd St., New York 17, N.Y. (1944) Controllers Inst. of Amer., managing dir., res., edit., bus.; b. 1902; B.S., 1925, Yale; 1930-31, Brookings. Fields 11, 3c, 8a. Pub. "Current reappraisal of distribution channels," Amer. Paint and Oil Dealer, Mar., 1947; "Changing channels of distribution," Nov., 1946, "Acceptance of orders for postwar delivery," Sept., 1944, Dun's Rev. Dir. W.W. in East.

MITCHELL, Wesley Clair, Westover Rd., Stamford, Conn. (1903) Nat. Bur. of Econ. Res., res.; b. 1874; A.B., 1896, Ph.D., 1899, Chicago; 1897-98, Halle and Vienna. Fields 6, 1ab, 3c. Doc. dis. History of the Greenbacks (Univ. of Chicago Press, 1903). Pub. Gold, prices, and wages under the Greenback standard (1908), Business cycles (1913) (Univ. of California Press); Backward art of spending money and other essays (McGraw-Hill, 1937). Res. What happens during business cycles—a progress report. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.

MITCHELL, William N., 8159 S. Rhodes Ave., Chicago, Ill. (1946)

MITTELMAN, Edward Becker, 2032 Belmont Rd., N.W., Washington 9, D.C. (1920) Int. Assn. of Machinists, res.; b. 1890; A.B., 1914, Wisconsin; Ph.D., 1920, Chicago. Field 16. Pub. History of labor in U.S. (Macmillan, 1918); Occupational characteristics of workers on relief (Ore. State Relief Com. and FERA, 1936); Report and recommendations of Unemployment Insurance Commission of state of Oregon (Ore. State Prtg. Dept., 1935). Dir. Dir. of Schol.

MLADEK, Jan Viktor, 1818 H St., N.W., Washington 6, D.C. (1946)

MODEL, Mark, 190 Park Ave., Merrick, L.I., N.Y. (1943)

MODERN, Ernest, 12 Howland St., Cambridge, Mass. (1948) Nat. Labor Rela. Bd., 1st Reg. field examiner; Suffolk Univ., lecturer in econ.; govt. serv., teach.; b. 1906; Dr. juris et rer. pol., 1929, Univ. of Vienna; B.S., 1943, Columbia; 1943-44, New York. Fields 16, 1a, 9. Res. Labor relations in maritime industry.

MODIGLIANI, Franco, 429 B. 120th St., Rockaway Park, N.Y. (1942)

MODLIN, Carey Pete, Jr., Princeton Univ., Dept. of Econ. and Soc. Inst., Princeton, N.J. (1947) Princeton Univ., instr., teach., res.; b. 1922; A.B., 1946, William and Mary; A.M., 1948, Princeton. Fields 12, 8a, 11c.

MODLIN, George Matthews, University of Richmond, Va. (1940) Univ. of Richmond, pres.; b. 1903; B.A., 1924, LL.D., 1947, Wake Forest Col.; M.A., 1925, Ph.D., 1932, Princeton. Fields 12b, 13ab, 2a. Doc. dis. Industrial pension plans. Pub. Development of economic society (co-author) (1936, rev. 1946), Social control of industry (co-author) (1938) (Heath). Dir. W.W. in Amer.

MOE, Floyd B., Junior Col., Virginia, Minn. (1946) Virginia Jr. Col., dean, teach.; b. 1899; B.A., 1922, M.A., 1925, Minnesota; summers 1929, 1937, Chicago; 1944-45, Harvard. Fields 16, 8ab. Dir. Lead. in Educa.

MOELLER, Charles, Jr., Haggars Lane, Fair Haven, N.J. (1943)

MOFFAT, James Ernest, 925 E. Hunter Ave., Bloomington, Ind. (1915) Indiana Univ., prof., teach., res., edit.; b. 1883; A.B., 1914, McMaster Univ.; A.M., 1916, Ph.D., 1924, Chicago. Fields

- 1, 4, 17abd. Doc. dis. Theory of diminishing returns: history and criticism (Abstracts of Theses, Univ. of Chicago, 1924-25). Pub. Economics: principles and problems (co-author and editor) (Crowell, 1942, 1947); "Nationalism and economic theory," J.P.E., Vol. XXXVI; "Installment plan and business cycle," Bankers Mag., Vol. CXXXIII. Res. Development of American economic thought. Dir. Dir. of Schol., W.W. in Amer. Educa.
- MOGILNITSKY**, Theodosi Alexis, Loyola Univ., 820 N. Michigan Ave., Chicago 11, Ill. (1933) Loyola Univ., prof., teach., res.; b. 1898; M.A., 1930, Ph.D., 1932, Johns Hopkins. Fields 1b, 4a, 7. Doc. dis. Money and banking in Soviet Russia. Res. Tugan-Baranovsky's theory of distribution. Dir. W.W. in Amer.
- MOHN**, Kermit B., 706 S. Pitt St., Alexandria, Va. (1945)
- MOISEEFF**, Moise, 1421 Masonic Ave., San Francisco 17, Calif. (1947) A. Ponve Co., secy., sales mgr., bus., res.; b. 1905; Ph.D., 1929, Univ. of Liege (Belgium). Fields lab, 6, 10. Doc. dis. Theories Recentes de Crises Economiques. Pub. "Notion et Definition des Conjonctures Economiques," Annales de la Societe Scientifique de Bruxelles, 1930; "Evolution d'une Doctrine," Revue d'Histoire Economique et Sociale (Paris), 1932; "La Theorie Generale de Mr. Keynes," Revue des Sciences Economiques (Liege), 1938. Res. Efforts in rebuilding world trade and international economic collaboration.
- MOLANO M.**, Alvaro, Calle 7 No. 5-60 Bogota, Colombia, S. Amer. (1946)
- MOLL**, Justus Reiniger, 1029 Vermont Ave., N.W., Washington 5, D.C. (1947) B. 1893. Field 16.
- MOLODOVSKY**, Nicholas, White, Weld and Co., 40 Wall St., New York 5, N.Y. (1945)
- MOLONEY**, John Frederick, 731 Sterick Bldg., Memphis 3, Tenn. (1938) Nat. Cottonseed Products Assn., econ., bus., edit., res.; b. 1909; A.B., 1931, A.M., 1935, Columbia. Fields 14a, 15b, 11b. Pub. "Economics of cottonseed crushing," in Cottonseed and cottonseed products (Interscience Pub., 1948); "Some effects of Fair Labor Standards Act upon southern industry," Southern Econ. Jour., July, 1942; Cotton in peace and war (Vanderbilt Univ. Press, 1944).
- MONCHOW**, Helen Corbin, 3213 Volta Pl., N.W., Washington 7, D.C. (1929) Housing and Home Finance Agency, urban land econ., res.; b. 1898; A.B., 1920, Mount Holyoke Col.; M.A., 1928, Ph.D., 1937, Northwestern. Fields 15dc, 2a, 13ab. Doc. dis. Seventy years of real estate subdividing in region of Chicago (Northwestern Univ., 1939). Pub. Use of deed restrictions in subdivision development (Inst. for Res. in Land Econ. and Pub. Util., 1928); several community studies, in Forty-four cities in City of Chicago (Chicago Plan Com., 1942); "Subdivision control: current trends toward greater regulation of residential lot business," Freehold, Oct. 15, 1937. Res. Impact of restrictive covenants on community development; rural nonfarm housing problem. Dir. W.W. in Amer.
- MONROE**, Arthur Eli, 5 Concord Ave., Cambridge 38, Mass. (1915) Retired, teach., edit.; b. 1885; A.B., 1908, A.M., 1914, Ph.D., 1918, Harvard. Fields lab, 7, 9. Doc. dis. Monetary theory before Adam Smith (Harvard Univ. Press, 1923). Pub. Early economic thought (1924), Value and income (1931) (Harvard Univ. Press); "Demand for labor," Q.J.E., 1933. Dir. W.W. in Amer.
- MONROE**, Day, 2311 W. 17th St., Topeka, Kan. (1926)
- MONTAGUE**, Gilbert Holland, 152 E. 37th St., New York, N.Y. (1926) Lawyer; b. 1880; A.B., 1901, M.A., 1902, Harvard; A.B., 1904, Harvard Law School. Fields 12, 11ab, 8. Dir. W.W. in Amer.
- MONTALEGRE C.**, Eduardo, c/o Banco de Guatemala, Guatemala City, Guatemala, C. Amer. (1944)
- *MONTEITH**, Chalmers Alexander, Ohio State Univ., Dept. of Econ., Columbus 10, Ohio. (1948) Ohio State Univ., grad. asst., res., teach.; b. 1922; B.S. in Bus., 1947, Miami Univ. Fields 7, 8, 2a.
- MONTGOMERY**, Royal E., Cornell Univ., Dept. of Econ., Ithaca, N.Y. (1931)
- MOONITZ**, Maurice, 831 The Alameda, Berkeley 7, Calif. (1935) Univ. of California, asso. prof., teach., res.; b. 1910; B.S., 1933, M.S., 1936, Ph.D., 1941, California. Fields 11c, 5, 12. Doc. dis. Obsolescence, industrial policy, and problem of economic stability. Pub. Entity theory of consolidated statements (Amer. Acctg. Asso., 1944); "Risk of obsolescence and importance of rate of interest," J.P.E., Aug., 1943; "Adaptations to price level changes," Acctg. Rev., Apr., 1948. Res. Accounting as tool of public policy.
- MOORE**, Charles W., Salebury Rd., New Hope, Pa. (1939)
- MOORE**, Floyd Wayne, Western Michigan Col., Kalamazoo 45, Mich. (1927) Western Michigan Col., Soc. Sci. Div., chmn., Econ. Dept., dept. head, teach.; A.B., 1910, Albion Col.; A.M., 1922, Michigan; Ph.D., 1941, Northwestern. Fields 1ab, 11ab, 12. Doc. dis. Kalamazoo, a debt free city.
- MOORE**, Henry Ludwell, Cornwall, N.Y. (1896)
- MOORE**, John Benjamin, William Jewell Col., Liberty, Mo. (1947) William Jewell Col., prof., dept. head, teach.; b. 1910; A.B., 1934, Westminster Col. (Mo.); A.M., 1939, Missouri; 1940-41, Michigan. Fields 16, 7, 1a.
- MOORE**, O. Ernest, 33 Liberty St., New York 45, N.Y. (1944) Fed. Res. Bank of N.Y., Res. Dept., mgr., edit., res.; b. 1896; M.S.S., 1946, New School for Soc. Res. Fields 10, 7, 9.
- MOORE**, William H., 1 Scott Circle, Washington, D.C. (1934) U.S. Cong. Com. on Econ. Report, econ., govt. serv., res.; B.S., 1923, Iowa; Ph.D., 1938, Chicago. Fields 8ab, 1a, 11c. Doc. dis. Economics of railroad financial reorganization. Pub. Reorganization of railroad corporations (Amer. Coun. on Pub. Affairs, 1941); "Assignment of relative values to defaulted divisional liens," Jour. of Land and Pub. Util. Econ., 1940; "Accounting for sources of income," Jour. of Accountancy, 1946. Res. Capital supply contracts; accounting and business fluctuations.
- MOORE**, William J., 372 High St., Richmond, Ky. (1934) Col. dean, teach., res.; b. 1894; A.B., 1925, A.M., 1928, Ph.D., 1931, Kentucky. Fields 1, 11, 9. Doc. dis. Proposed plan for financing Kentucky schools. Dir. Lead. in Educa.
- MOREHOUSE**, Edward Ward, 17 Hibben Rd., Princeton, N.J. (1925) General Pub. Util. Corp., vice-pres., bus., res., govt. serv., edit.; b. 1896; B.A., 1918, Amherst Col.; M.A., 1920, Ph.D., 1927, Wisconsin. Fields 13ac, 12b, 11ac. Doc. dis. Industrial law in making: a study of Rochester, N.Y., clothing market, 1919-22 (partial, Q.J.E., 1923). Pub. Elements of land economics (with R. T. Ely) (Macmillan, 1924); "Power problems in New England," in New England's prospect (Amer. Geog. Soc., 1933); "Innovations in public utility accounting regulation," Yale Law Jour., Apr., 1937. Dir. W.W. in Amer.
- MOREY**, Lloyd, Univ. of Illinois, Urbana, Ill. (1942)
- MORGAN**, Charles Stillman, 5721 Chevy Chase Pkwy., Washington 15, D.C. (1917) Int. Com. Com., chief carrier res. anal., res.; b. 1891; A.B., 1914, Michigan; Ph.D., 1920, Yale. Fields 13b, 12b, 11c. Doc. dis. Regulation and management of public utilities (Houghton Mifflin, 1923). Pub. St. Lawrence navigation and power project (with H. G. Moulton and A. L. Lee) (Brookings, 1929); Public aids to transportation (dir. and prin. author) (1940), Federal regulation of sizes and weight of motor vehicles (dir. and joint author) (1941) (Govt. Ptg. Office). Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.
- MORGAN**, Chester Alan, 610 N. Buxton, Indianola, Iowa. (1946) Simpson Col., dept. head, asso. prof., teach.; b. 1914; B.A., 1936, M.A., 1945, summers 1946, 1947, Iowa. Fields 16, 1a, 10. Res. Economic effects of postwar labor legislation (doc. dis.).
- MORGAN**, Gerald, Hyde Park, N.Y. (1920) Soc. Sec. Admin., consult. on disability; b. 1879; B.A.,

1901, Yale. Field 17b. Pub. Public relief of sickness (Macmillan, 1923). Res. Chronic disablement in England and U.S.A.

MORGAN, James Newton, Brown Univ., Robinson Hall, Providence, R.I. (1944) Brown Univ., asst. prof., teach., res.; b. 1918; A.B., 1939, Northwestern; M.A., 1941, Ph.D., 1947, Harvard. Fields 1ac, 3ab, 17bd. Doc. dis. Elimination of gains and losses resulting from operations of governments—theoretical and empirical study in welfare economics. Pub. "Can we measure marginal utility of money?" *Econometrica*, Apr., 1945; "Measurement of gains and losses," *Q.J.E.*, Feb., 1948. Res. Consumer substitutions in response to price shifts; factors behind wage differentials; some theoretical problems, as bilateral monopoly theory. Dir. W.W. in New England.

MORGAN, Julian D., 1741 Vermont, Lawrence, Kan. (1946)

MORGAN, Lorne Thompson, Univ. of Toronto, Dept. of Polit. Econ., Toronto 5, Ont., Canada. (1932) Univ. of Toronto, asso. prof. of polit. econ., teach., res.; b. 1897; B.A., 1924, Univ. of British Columbia; M.A., 1925, Ph.D., 1930, California. Fields 4ab, 2, 16. Doc. dis. Entrepreneur in economic theory. Pub. "State and economic life in Fascist Italy," Univ. of Toronto Quar., July, 1940; "Origin and development of Fascism" in *Essays in political economy in honour of E. J. Urwick* (Univ. of Toronto Press, 1938); Permanent war on homo the sap (*Workers' Educa. Asso. of Ontario*, 1944). Res. Fascism. Dir. W.W. in Canada.

MORGAN, Theodore, Univ. of Wisconsin, Dept. of Econ., Madison 6, Wis. (1941) Univ. of Wisconsin, asso. prof., res., teach.; b. 1910; A.B., 1930, A.M., 1931, Ohio State; summer, 1937, Univ. of Washington; M.A., 1940, Ph.D., 1941, Harvard. Fields 6, 10, 2a. Doc. dis. Hawaii: a century of economic change, 1778-1876 (Harvard Univ. Press, 1948). Pub. Income and employment (Prentice-Hall, 1947); "Interest, time preference, and yield of capital," *A.E.R.*, Mar., 1945. Res. Level and fluctuations of production and employment.

MORGENSTEIN, Sam A., 1710 E. Moyamensing Ave., Philadelphia 48, Pa. (1946) U.S. Pub. Health Serv., biometrician, govt. serv., res., teach.; b. 1913; B.A., 1942, George Washington. Fields 17ab, 12, 6.

MORGENSTERN, Oskar, 12 Nassau St., Princeton, N.J. (1945) Princeton Univ., prof., teach., res.; b. 1902; Dr. rer. pol., 1925, Univ. of Vienna; 1925-28, Columbia, Harvard, Paris, Rome. Fields 1, 6, 3. Doc. dis. Zur Theorie der Grenzproduktivitaet. Pub. *Wirtschaftsprognose* (J. Springer, Vienna, 1928); Limits of economics (Hodge, London, 1937); Theory of games and economic behavior (with J. von Neumann) (Princeton Univ. Press, 1944). Res. International financial transactions; structure of American economy. Dir. W.W. in Amer. Dir. of Schol.

MORGNER, Aurelius, Texas A. and M. Col., Econ. Dept., College Station, Tex. (1941) Texas A. and M. Col., asso. prof., teach., res.; b. 1917; B.S. in B.A., 1938, M.A., 1940, Missouri. Fields 16, 1ab, 7. Pub. Problems for economic analysis (with R. Strotz and C. Allen) (Prentice-Hall, 1948). Res. Effect of income distribution on national income; economic significance of government intervention in labor markets.

*MORIN, Alexander Joseph, 12 Whittier St., Cambridge 40, Mass. (1948) Harvard Univ., student, res.; b. 1920; A.B., 1941, Chicago; M.P.A., 1948, Harvard. Fields 16, 1a, 15b. Pub. "Strikes in defense industries, 1941," *Monthly Labor Rev.*, June, 1942. Res. Organizing potential of agricultural labor in U.S. (doc. dis.).

MORLEY, Burton Raymond, Box 1994, University, Ala. (1941) Univ. of Alabama, School of Com. and Bus. Admin., Mgt. Dept., dept. head, prof., teach.; b. 1898; A.B., 1922, West Virginia; A.M., 1925, Ph.D., 1930, Pennsylvania. Fields 16, 11a, 14a. Doc. dis. Characteristics of applicants for work (privately published, 1930). Pub. Characteristics of Alabama labor market (Univ. of

Alabama, Bur. of Bus. Res., 1935). Dir. W.W. in Amer.

MOROSOFF, Serge P., Pacific Mills, 214 Church St., New York 13, N.Y. (1943)

MORRILL, Chester, Fed. Res. Bd., Washington, D.C. (1924)

MORRIS, Bruce Robert, Univ. of Massachusetts, Econ. Dept., Amherst, Mass. (1935) Univ. of Massachusetts, asso. prof., teach.; b. 1909; A.B., 1931, Western Reserve; M.A., 1932, Ohio State; Ph.D., 1937, Illinois. Fields 16, 1a, 3a. Doc. dis. Economics of special taxation of chain stores.

MORRIS, James Aloysius, 2738 Burney Dr., Columbia, S.C. (1947) Univ. of South Carolina, adjunct prof., teach., res.; b. 1918; A.B., 1942, Northeastern; M.A., 1947, Harvard. Fields 12, 16, 14a. Res. Woolen industry (doc. dis.).

MORRIS, Victor Pierpont, 1669 Fairmount Blvd., Eugene, Ore. (1926) Univ. of Oregon, School of Bus. Admin., dean, prof. of econ., teach., res.; b. 1891; A.B., 1915, A.M., 1920, Oregon; Ph.D., 1930, Columbia. Fields 10, 1a, 7. Doc. dis. Oregon's experience with minimum wage legislation (Columbia Univ. Press, 1930). Res. Problems of economic expansion in Oregon. Dir. W.W. in Amer., in Ore.

MORRISON, Jay, Box 127, La Jolla, Calif. (1935)

MORRISON, Loyale Alexander, 1616 S. Lynn St., Arlington, Va. (1923)

MORRISON, Paul Leslie, 2115 Central Park Ave., Evanston, Ill. (1928) Northwestern Univ., School of Com., Grad. Div., dir., Fin. Dept., dept. head, prof. of fin., teach.; b. 1899; A.B., 1921, DePaul; M.B.A., 1922, Ph.D., 1927, Northwestern. Fields 8ab, 7, 13a. Doc. dis. Public utility holding companies—study of trading on equity. Pub. Principles of accounting (with E. L. Kohler) (A. W. Shaw Co., 1926; McGraw-Hill, rev. ed. 1931); "Some economic aspects of public utility holding companies," *Jour. of Land and Pub. Util. Econ.*, Feb., May, 1928; "Interest of investor in accounting principles," *Acctg. Rev.*, Mar., 1937. Res. Valuation of common stocks for use in investment management. Dir. W.W. in Amer., in Middle West, in Com. and Ind., Dir. of Schol.

MORRISON, Vernon Guy, Southern Illinois Univ., Box 267, Carbondale, Ill. (1936) Southern Illinois Univ., asst. prof. of econ., teach.; b. 1904; B.S., 1925, M.A., 1926, Nebraska; 1930-34, Chicago. Fields 9, 13a, 12b. Pub. Assessment of property in Tennessee (Tenn. Munic. League, Report No. 6, 1942); Major factors in financing local sewerage works in Tennessee (Univ. of Tennessee, Bur. of Pub. Admin., 1946). Res. Property tax-rate limitation.

*MORRISSEY, Frederic Patric, 20 E 603 Shanks Village, Orangeburg, N.Y. (1947) Columbia Univ., student; b. 1920; B.Com., 1943, M.Com., 1946, Univ. of Toronto; 1947-48, Columbia. Fields 13a, 8a, 9. Res. Economic study of Hydro-electric Power Commission of Ontario.

MORRISSEY, Elizabeth, Notre Dame Col., N. Charles St., Baltimore, Md. (1941)

MORROW, Curtis Hugh, 3 West Ct., Waterville, Me. (1922) Colby Col., prof. of econ. and soc., dept. head, teach., res.; b. 1882; A.B., 1910, A.M., 1911, Ph.D., 1927, Clark Univ. (Mass.). Fields 17ab, 1ab. Doc. dis. Politico-military secret societies, 1860-65 (Soc. Sci., 1928). Res. Statistical study of population of Waterville, Me. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

MORROW, David W., Wright Aeronautical Corp., Wood-Ridge, N.J. (1948) Wright Aeronautical Corp., econ., bus.; b. 1917; B.S. in B.A., 1938, Lehigh; M.B.A., 1946, New York. Fields 11ac, 3a, 15de.

MORS, Wallace Peter, Babson Inst. of Bus. Admin., Babson Park 57, Mass. (1940) Babson Inst. of Bus. Admin., Fin. Faculty, memb., teach., res.; b. 1911; Ph.B., 1932, A.M., 1935, Ph.D., 1942, Chicago. Fields 7, 8ab, 1ab. Doc. dis. Consumer credit theories (Univ. of Chicago Press, 1944). Pub. "Rate regulation in field of consumer credit," *Jour. of Bus.*, Jan., Apr., 1943; Financial

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MORSE, Herbert Carpenter, 333 S. Kensington Ave., La Grange, Ill. (1940) Swift & Co., res.; b. 1911; A.B., 1932, Oberlin. Fields 12, 14a, 1.

MORSE, Hermann Clare, 1335 W. Hollywood Ave., Chicago 40, Ill. (1929) Chicago Title and Trust Co., final examiner; b. 1886; B.A., 1909, King's Col. (Nova Scotia); LL.B., 1913, Dalhousie Univ. Fields 1a, 10, 4a.

MORSE, Richard L. D., Florida State Univ., Tallahassee, Fla. (1941) Florida State Univ., prof. of family econ., teach., res.; 1933-35, Oberlin; B.A., 1938, Wisconsin; 1938-39, Chicago; Ph.D., 1942, Iowa State Col. Fields 17d, 3a, 11b. Doc. dis. Egg grading and consumers' preferences (abstract, Iowa State Col. Jour. of Sci., Oct., 1945). Pub. "Rationale for studies of consumers' food preferences," in *Advances in food research* (1948); Organization and regulations, Iowa Agricultural Experiment Station (Iowa State Col., 1947); "Tire rationing and butterfat transportation problems," *Creamery Jour.*, May, 1942. Res. Consumers' food preferences.

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MORTARA, Giorgio, Comissão Censitária Nacional, Ave. Pasteur, 404, Rio de Janeiro, Brazil, S. Amer. (1941)

MORTON, Joseph Edward, Cornell Univ., Ithaca, N.Y. (1936) Cornell Univ., prof. of statis.; Nat. Bur. of Econ. Res., on staff; b. 1907; J.D., 1930, Univ. of Prague; D.Sc., 1935, Univ. of Geneva. Fields 3ac, 16, 6. Doc. dis. L'employé privé (Rivière, Paris, 1935). Res. Mortgage financing of urban real estate. Dir. W.W. in Midwest.

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MOSCONI, David Louis, 2327 S. Josephine St., Denver 10, Colo. (1942) Univ. of Denver, asso. prof., teach., res.; b. 1916; B.S., 1941, M.S., 1943, Denver; 1944-46, New York. Fields 1ab, 8ab, 7.

MOSK, Sanford Alexander, Univ. of California, Dept. of Econ., Berkeley 4, Calif. (1936)

MOSS, Bernard, 322 E. 173rd St., New York 57, N.Y. (1944) Nat. Ind. Conf. Bd., staff asso., res., bus.; b. 1923; B.S., 1943, City of New York; M.A., 1946, Columbia. Fields 11ab, 3a, 9. Res. Taxation of co-operatives.

*MOSS, Robert Ryder, 65 E. 55th St., New York 22, N.Y. (1946)

MOSSÉ, Robert, Faculté de Droit, Grenoble, France, (1942) Faculté de Droit, Univ. of Grenoble, prof., teach., res.; b. 1906; Docteur en droit, 1929, Lyon; Agrégation, 1938, Paris. Fields 10, 4, 16. Doc. dis. Unemployment insurance (Dalloz, Paris, 1929). Pub. L'Economie collectiviste (Librairie générale, Paris, 1939); *Economie et législation industrielles* (Editions Montaigne, Paris, 1940); "L'extension du pouvoir d'achat," *Revue des Sciences Économiques* (Liege), 1935. Res. International Monetary Fund and money. Dir. W.W. in Central States.

MOTLAND, Milton A., 319 Bellevue St., Newton 58, Mass. (1947)

MOULTON, Elma Saunders, 1628 Montague St., Washington 11, D.C. (1944)

MOULTON, Harold Glenn, Brookings Inst., 722 Jackson Pl., Washington, D.C. (1911)

MOUNCE, Earl Winfield, Box 13, College Park, Md. (1948) Univ. of Maryland, Col. of Bus. and Pub. Admin., asso. prof., teach., res.; b. 1896; B.S., 1921, A.B., 1922, M.A., 1926, LL.B., 1929, Missouri; summer, 1931, Harvard, 1934, Southern California; LL.M., 1945, National Univ.; 1946-47, Catholic. Fields 16, 8ac. Pub. Modern labor relations (Robley D. Stevens, 1948). Dir. W.W. in Amer., in Amer. Educa.

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MOWBRAY, Albert Henry, Univ. of California, 119 South Hall, Berkeley 4, Calif. (1924) Univ. of California, prof. of ins.; Ins. Dept. of Calif., consult. actuary; teach., govt. serv.; b. 1881; A.B., 1904, California. Fields 8c, 3ab. Pub. Insurance, its theory and practice in U.S. (McGraw-Hill, 1930, 3rd ed. 1946). Dir. W.W. in Amer.

††MOWRER, Ernest R., Amer. Sociological Soc., Northwestern Univ., Evanston, Ill. (1942)

*MOYER, Fred W., Jr., 2296 Neil Ave., Columbus 1, Ohio. (1947) Ohio State Univ., instr., teach., res.; b. 1917; B.S., 1938, M.A., 1946, 1947-48, Ohio State. Fields 7, 9, 3a.

MUCHA, Frank A., Fed. Housing Admin., 1001 Vermont Ave., N.W., Room 805, Washington, D.C. (1940)

MUDGE, Edmund Webster, 1000 Morewood Ave., Pittsburgh, Pa. (1934)

MUDGETT, Bruce D., Univ. of Minnesota, Minneapolis 14, Minn. (1918) Univ. of Minnesota, teach., res.; b. 1884; B.A., 1908, Idaho; 1908-09, Columbia; Ph.D., 1913, Pennsylvania. Fields 3a, 5, 1a. Doc. dis. Disability provision in American life insurance contracts (Annals, Amer. Acad. of Polit. and Soc. Sci., 1915). Pub. Statistical tables and graphs (Houghton Mifflin, 1930); "Cost of living index and Kónis' condition," *Econometrica*, 1945; "Reliability of forest surveys" (with S. R. Gevorkiantz), *Jour. of Amer. Statis. Assn.*, 1934. Res. Index numbers; statistical methods. Dir. W.W. in Amer.

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MUENCH, Carl, Wartburg Col., Waverly, Iowa. (1945)

MUHLBACH, Walter Frederick, 15 Lawrence St., Gardner, Mass. (1945) Florence Stove Co., dir. of distribution res., res., bus.; b. 1896; 1916-18, 1919-20, Oberlin; Ph.B., 1921, 1924, Chicago; 1921-23, Cincinnati; M.A. in B.A., 1925, Ohio State. Fields 11ab, 4ab, 14a. Pub. "Tariff devices for depreciating currencies," *J.P.E.*, 1925; "Bank investments," *Jour. of Amer. Bankers Assn.*, 1924. Dir. W.W. in Com. and Ind., in New England.

MUI, Kap C., 602 Garland Ave., Takoma Park, Washington 12, D.C. (1945) Res.; b. 1917; B.A., 1944, Miami Univ.; M.A., 1946, 1946-48, Princeton. Fields 7, 9, 6. Res. Effect upon commercial banks and bank policy of deficit financing in World War II (doc. dis.).

MULCAHY, Richard E., 96 Staples Ave., San Francisco 12, Calif. (1943)

MULLENBACH, Philip, 4601 47th St., N.W., Washington 16, D.C. (1942) U.S. Atomic Energy Com., reports anal., govt. serv.; b. 1912; 1930-32, Carleton Col.; Ph.B., 1934, Chicago. Fields 10, 6, 14. Pub. Foreign trade of Latin America (Joint author) (U.S. Tariff Com., 1941). Res. U.S. trade with Latin America.

- MULLER, (Mrs.) Charlotte Feldman, c/o State of Calif., Dept. of Pub. Health, San Francisco 2, Calif. (1945) B. 1921; A.B., 1941, Vassar; A.M., 1942, Ph.D., 1946, Columbia. Fields 12, 2a, 1ab. Doc. dis. Light metals monopoly (Columbia Univ. Studies in Hist., 1946). Pub. "Aluminum monopoly in wartime," *Polit. Sci. Quar.*, Spring, 1945; "Aluminum and power control," *Jour. of Land and Pub. Util. Econ.*, May, 1945; British war finance and the banks," *Jour. of Bus.*, Spring, 1943. Dir. W.W. in Amer., on Pacific Coast.
- MULLER, Elizabeth Wallace (Mrs. L. Philip), 6200 Greene St., Philadelphia 44, Pa. (1947) Univ. of Pennsylvania, Wharton School, instr., teach.; b. 1921; A.B., 1943, Vassar; A.M., 1946, 1946-47, Pennsylvania. Fields 7, 1, 10.
- MULLIKEN, Jean Hayden (Mrs. Otis E.), 6429 31st Pl., N.W., Washington, D.C. (1942)
- MULLIKEN, Otis E., 6429 31st Pl., N.W., Washington, D.C. (1939)
- MULVIHILL, Donald Ferguson, Box, 2323, University, Ala. (1941) Univ. of Alabama, School of Com. and Bus. Admin., asst. prof. of mktg., teach., res.; b. 1911; B.S., 1933, Illinois; M.A., 1937, Chicago; M.S., 1940, Illinois. Fields 11ab, 12a, 1. Pub. University courses in air transportation (Univ. of Alabama, Bur. of Bus. Res., 1947). Res. Marketing of pre-packaged red meats.
- MUMFORD, Marian B., Wis. Citizens' Public expenditure Survey, 340 Washington Bldg., Madison, 3, Wis. (1945)
- MUND, Vernon Arthur, 12235 12th Ave., N.W., Seattle 77, Wash. (1929) Univ. of Washington, prof. of econ., teach., res.; b. 1906; B.A., 1928, M.A., 1929, Univ. of Washington; Ph.D., 1932, Princeton. Fields 1ab, 12. Doc. dis. Monopoly—a history and theory (Princeton Univ. Press, 1933). Pub. "Financial adjustment in empirical law of cost," *A.E.R.*, Mar., 1936; "Freight-allowed method of price quotation," *Q.J.E.*, Feb., 1940; Open markets (Harper, 1948). Res. Industrial price policies. Dir. Dir. of Schol., W.W. in Amer. Educa., on Pacific Coast.
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- MUNROE, Juliet (Mrs. Henry), 3200 Idaho Ave., Washington 16, D.C. (1947)
- MUNTZ, Earl Edward, New York Univ., School of Com., Dept. of Econ., Washington Sq., New York 3, N.Y. (1923) New York Univ., prof. of econ., teach.; b. 1894; B.A., 1917, Baldwin-Wallace Col.; M.A., 1921, Ph.D., 1925, Yale. Fields 16, 17ab, 1. Doc. dis. Race contact (Appleton-Century-Crofts, 1927, rev. 1947). Pub. Urban sociology (Macmillan, 1938); Economic principles and problems (co-author) (Farrar and Rinehart, 1940); Proposals for health, old-age and unemployment insurance (Amer. Enterprise Asso., 1946). Res. Unemployment compensation in U.S.; growth of social security in U.S. Dir. W.W. in Amer. Educa.
- MURAD, Anatol, Box 284, Hamilton Rd., R. 3, New Brunswick, N.J. (1941)
- MURCHISON, Claudius Temple, Cotton-Textile Inst., Inc., 271 Church St., New York 13, N.Y. (1928) Cotton-Textile Inst., pres.; b. 1889; A.B., 1911, LL.D., 1936, Wake Forest Col.; Ph.D., 1919, Columbia. Fields 14a, 10, 6. Doc. dis. Resale price maintenance (Univ. of North Carolina Press, 1919). Pub. King Cotton is sick (Univ. of North Carolina Press, 1930). Dir. W.W. in Amer.
- MURDOCH, Arthur Edward, Harper Rd., Kerrville, Tex. (1911)
- MURDOCK, John Carey, 917 N.W. 19th St., Oklahoma City 6, Okla. (1948) Univ. of Wisconsin, student, asst.; b. 1922; B.A., 1947, Oklahoma; 1947-48, Wisconsin. Fields 1a, 7, 2a.
- MURPHY, Austin de la Salle, 8904 118th St., Richmond Hill 18, L.I., N.Y. (1946)
- MURPHY, Eleanor Gould (Mrs. Henry C.), 2300 41st St., N.W., Washington 7, D.C. (1938) State Dept., econ., govt. serv.; b. 1909; B.A., 1931, M.A., 1933, Minnesota; 1940-42, American. Fields 10, 2b, 8ab.
- MURPHY, Henry Clifford, U.S. Treas. Dept., Office of Tech. Staff, Washington, D.C. (1926)
- *MURPHY, (John) Carter, Int. House, 1414 E. 59th St., Room 643, Chicago 37, Ill. (1948) Univ. of Chicago, student; Illinois Inst. of Tech., instr.; teach.; b. 1921; B.A., 1943, B.S., 1946, North Texas State Teachers Col.; 1946-48, Chicago. Fields 10, 1, 6.
- MURPHY, John Edward, 2235 Creston Ave., New York 53, N.Y. (1947) Col. of City of New York, tutor, teach., res.; b. 1922; B.S., 1942, City of New York; A.M., 1948, Columbia. Fields 10, 3ac, 5.
- MURPHY, Mary E., 113 S. Johnson St., Iowa City, Iowa. (1935)
- MURRAY, Evan Bailey, Utah State Agric. Col., Logan, Utah. (1940) Utah State Agric. Col., teach.; b. 1901; B.S., 1927, M.S., 1930, Utah State Agric. Col.; 1929, California; 1931-32, Southern California; 1931-32, Southern California; summers, 1933-35, 1937, 1939, 1941, 1942, 1943, Chicago. Fields 16, 7, 1a. Pub. "Collective bargaining and national defense," *Proceed.*, Pacific Coast Asso., 1942. Res. Labor economics.
- MURRAY, Merrill Garver, Amer. Mission for Aid to Greece, 4 W. Churchill St. Athens, Greece. (1933) Amer. Mission for Aid to Greece, consult. on soc. ins., govt. serv.; b. 1900; A.B., 1922, DePaul; Ph.M., 1929, Ph.D., 1936, Wisconsin. Fields 17b, 16, 10. Doc. dis. Development of unemployment insurance in America. Pub. New plan for unemployment reserves (with A. Hansen) (1933), Plan for unemployment insurance and relief (with Hansen, Stewart, and Stevenson) (1934) (Univ. of Minnesota Press). Dir. Dir. of Schol.
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- MYERS, A(aron) Howard, 333 Washington St., Boston 8, Mass. (1931) Northeastern Univ., dept. head, asso. prof.; Harvard Univ., lecturer; labor arbitrator; teach. bus.; b. 1904; A.B., 1926, Cornell Univ.; M.A., 1932, Ph.D., 1933, Columbia. Fields 16, 12b, 17c. Doc. dis. Administration of municipal sinking funds (N.Y. State Conf. of Mayors and Other Munic. Officials, 1933). Pub. "Movement of wage levels in recovery period," *Annals of Amer. Acad. of Polit. and Soc. Sci.*, Mar., 1936; "National Labor Relations Board in strike situations," *Boston Univ. Law Rev.*, Apr., 1938; "Labor relations—laws and men," *Harvard Bus. Rev.*, Mar., 1941. Dir. W.W. in Amer.
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MYERS, D'Alton Bristol, 2120 16th St., N.W., Washington 9, D.C. (1946) Munitions Bd., econ. adviser; govt. serv.; b. 1898; B.S. in B.A., 1933, M.B.A., 1935, Southern California. Fields 11a, 13b, 8b. Pub. "Small business for veterans," Law and Contemp. Prob., Summer, 1945; Will making concrete block pay in your community? (U.S. Dept. of Com., U.S. Dept. of Agric., 1945). Dir. W.W. in Educa.

MYERS, Howard Barton, 6512 Western Ave., Chevy Chase 15, Md. (1927) Com. for Econ. Development, asso. dir. of res., Res. and Policy Com., exec. secy., res.; b. 1901; A.B., 1923, Washburn Col.; Ph.D., 1929, Chicago. Fields 1a, 6, 3a. Doc. dis. Policing of labor disputes. Pub. Jobs and markets (co-author) (McGraw-Hill, 1946); "Dynamics of labor supply," June, 1941, "Defense migration and labor supply," Mar., 1942, Jour. of Amer. Statis. Ass. Dir. W.W. in Amer., in East, Dir. of Schol., Lead. in Educa.

MYERS, John Holmes, Northwestern Univ., School of Com., Evanston, Ill. (1942) Northwestern Univ., School of Com., asso. prof. of bus. statis., teach., res.; b. 1915; B.S.C., 1937, M.B.A., 1938, Ph.D., 1943, Northwestern. Fields 8ab, 11c, 3a. Doc. dis. Effect of raising new capital upon company's common stock price. Pub. "Influence of stock split ups on market price" (with A. J. Bakay), Harvard Bus. Rev., Mar., 1943; "Market action of new issues," Com. and Fin. Chron., 1941; "Business review," "Prices," "Ten eventful years," Ency. Britannica, 1947.

MYERS, Lawrence Blumfield, Univ. of Wisconsin, Racine Ext. Center, Racine, Wis. (1946) Univ. of Wisconsin, Ext. Div., instr., teach., res.; b. 1921; B.S., 1945, Temple; M.Ph., 1947, Wisconsin. Fields 9, 8a, 16. Res. Some aspects of Swedish public finance (doc. dis.).

*MYERS, Margaret G. (Mrs. B. H. Beckhart), Wing Farm, Vassar Col., Poughkeepsie, N.Y. (1941) Vassar Col., prof. of econ., teach., res.; b. 1899; A.B., 1920, Barnard Col.; A.M., 1922, Ph.D., 1931, Columbia; 1931-32, Faculté de Droit, Sorbonne. Fields 7, 3a, 1c. Doc. dis. New York money market: origins and development to 1913 (Columbia Univ. Press, 1931). Pub. Paris as financial center (1936), Monetary proposals for social reform (1940) (Columbia Univ. Press); "The league loans," Polit. Sci. Quar., Dec., 1945. Dir. W.W. in Amer.

MYERS, Robert James, U.S. Bur. of Labor Statis., Washington, D.C. (1934) U.S. Bur. of Labor Statis., asst. commissioner, govt. serv.; b. 1904; A.B., 1926, Washburn Col.; M.A., 1928, Ph.D., 1937, Chicago. Fields 14ab, 16, 3. Doc. dis. Economic aspects of production of men's clothing (Univ. of Chicago Press, 1937). Pub. How collective bargaining works (contrib. author) (Twentieth Century Fund, 1942); "Level of factory wage rates in wartime" (joint author), Monthly Labor Rev., Oct., 1943; "Wartime changes in urban wage relationships," Jour. of Amer. Statis. Ass., Dec., 1943. Dir. of Schol.

MYERS, Walter R., Univ. of Minnesota, 114 Vincent Hall, Minneapolis, Minn. (1922)

*MYHR, Anders Finch, 6116 S. Kimbark Ave., Chicago 37, Ill. (1948)

MYRDAL, Gunnar, Palais des Nations, Geneva, Switzerland. (1947) United Nations Econ. Commission for Europe, exec. secy., res., govt. serv.; b. 1898; LL.D., 1927, Stockholm Univ.; LL.D., 1938, Harvard; D.Litt. (Hon.), 1947, Fisk. Fields 10, 1ab, 4ab. Doc. dis. Dynamic price theory (Royal Acad. of Sci., 1927). Pub. Das Politische Element in der National Ökonomischen Doktrinbildung (Junker & Dunnhaupt, Berlin, 1932); Krisisbefolkningssfragan (with A. Myrdal) (Bonnier, Stockholm, 1934); An American dilemma:

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*NABERS, Lawrence, 4239 Terrace St., Oakland 11, Calif. (1948)

NADLER, Marcus, 90 Trinity Pl., New York 6, N.Y. (1924) New York Univ., prof. of fin., teach., res.; b. 1895; B.S., 1922, Columbia; 1923-24, George Washington; J.D., 1926, New York. Fields 7, 10, 8a. Pub. Foreign securities (Ronald Press, 1929); International money markets (1935), America's experience as a creditor nation (1937) (Prentice-Hall). Res. Changes in international banking. Dir. W.W. in Amer.

NAESSENS, Maurits Edouard, Rue Franklin 35, Brussels, Belgium. (1948) Caine Générale d'Elargement de Retraite, dir., bus., res., govt. serv.; b. 1908; Licencie in Sciences Commerciales, Antwerp; Licencie in Sciences Politiques, Brussels; Licencie in Sciences Economiques, Gent. Fields 8, 4b, 12.

*NAGAN, Seymour P., 88 Morningside Dr., New York 27, N.Y. (1948)

NAGEL, August W., P.O. Box 969, Alexandria, Va. (1944)

NAGELBERG, Morton S., c/o J. I. Weber, 905 W. End Ave., New York 25, N.Y. (1943) City of New York, Bd. of Transp., admin. asst. to commissioner, govt. serv.; b. 1913; B.A., 1936, M.A., 1938, Columbia. Fields 12b, 13b, 3a.

NAGLER, Kathleen, 150 W. 87th St., New York 24, N.Y. (1947)

NAHL, Perham Connor, 1131 Leonard Pl., Evanston, Ill. (1936) Needham, Louis, and Brorby, Inc., econ., asso. dir. of res., res., bus.; b. 1909; B.S., 1931, M.S., 1932; Ph.D., 1939, California. Fields 11b, 1a, 12. Doc. dis. Retail trading area analysis: a description and evaluation of delineation techniques. Pub. Consumer shopping habits by income and occupational groups (1940); Application of the interview method to a trading area survey of Stillwater, Oklahoma (1939) (Market Res. Serv., Oklahoma A. and M. Col.); "Variations in buying habits of different consumer groups," Southwestern Soc. Sci. Quar., Sept., 1940. Dir. W.W. in Amer.

NAIDEL, Simon, 2027 Park Rd., N.W., Washington 10, D.C. (1941) Fed. Works Agency, Bur. of Community Facilities, econ., govt. serv.; b. 1895; B.S., 1927, City of New York; M.A., 1928, Columbia; 1937-48, American. Fields 6, 14b, 3c.

NALLEN, Leslie R., Col. of Educa., Wilberforce, Ohio. (1948)

NASH, Sister M. Eleanor, Fontbonne Col., St. Louis, Mo. (1947)

NATHAN, Otto, 55 E. 10th St., New York 3, N.Y. (1931) New York Univ., prof.; Howard Univ., prof.; teach.; b. 1893. Fields 6, 10, 4ab. Pub. The Nazi economic system (Duke Univ. Press, 1944); International economic action and peace (Allen and Unwin, 1947); Nazi banking and finance (Nat. Bur. of Econ. Res., 1944). Res. Business cycles; international trade; changes in European economic systems since the war. Dir. W.W. in Amer., Int. W.W.

NATHAN, Robert R., Robert R. Nathan Associates, Inc., 3 Thomas Circle, Washington, D.C. (1937) Robert R. Nathan Associates, pres., bus.; b. 1908; B.S., 1931, M.S., 1933, Pennsylvania; LL.B., 1938, Georgetown. Fields 4ab, 6, 14. Pub. Mobilizing for abundance (McGraw-Hill, 1944); National income, 1929-36 (Govt. Prtg. Office, 1937); Palestine: problem and promise (Pub. Affairs Press, 1946). Res. Prospectus for Actors' Equity Asso. on economic development in the legitimate theatre. Dir. W.W. in Amer., Int. W.W.

NAYLOR, Richard William, Univ. of Buffalo, School of Bus. Admin., Buffalo 14, N.Y. (1947) Univ. of Buffalo, lecturer in fin., teach., res.; b. 1925; 1944, Illinois State Normal Univ.; B.S., 1946, Miami Univ.; M.B.A., 1948, Chicago. Fields 12b, 8ab, 11a. Res. Factors affecting size of business firms.

NEAL, Alfred C., Fed. Res. Bank, 30 Pearl St., Boston, Mass. (1941) Fed. Res. Bank of Boston, vice-pres., dir. of res., bus.; b. 1912; A.B., 1934, 1934-36, California; 1936-37, Univ. of London;

Ph.D., 1941, Brown. Fields 7, 14, 6. Doc. dis. Industrial concentration and price inflexibility (Amer. Coun. on Pub. Affairs, 1942). Pub. Introduction to war economics (editor and co-author) (R. D. Irwin, 1942); Modern economics (with A. E. Burns and D. Watson) (Harcourt, Brace, 1948); "New England's economic prospects" (with C. D. Hyson), Harvard Bus. Rev., Feb., 1948. Res. Economic problems of New England. Dir. W.W. in Com. and Ind., in Northeast, in New England.

NEF, John Utric, Univ. of Chicago, Chicago, Ill. (1929)

NEFF, Frank Amandus, 1625 N. Vassar, Wichita 6, Kan. (1935)

NEFF, Philip, 2324 S. Figueroa, Los Angeles 7, Calif. (1943) John Randolph and Dora Haynes Found., econ.; Pomona Col., asst. prof.; teach., res.; b. 1917; B.A., 1939, Ph.D., 1943, California. Fields 1a, 6, 7. Doc. dis. Government finance and interest rates. Pub. Production, costs in selected American industrial areas (Univ. of California Press, 1948); An economic survey of Los Angeles area (co-author) (Haynes Found., 1946). Res. Business cycles in selected American industrial areas.

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NEIDITZ, Victor, 28-28 35th St., Astoria 3, N.Y. (1947)

NEIFELD, Morris R., 15 Washington St., Newark 2, N.J. (1924) Beneficial Mgt. Corp., vice-pres., econ., dept. head, bus., res., teach.; b. 1892; A.B., 1913, Cornell Univ.; M.A., 1916, Columbia; Ph.D., 1922, New York. Fields 7, 3c, 6. Doc. dis. Intelligence of Negro in U.S. Pub. The personal finance business (1933), Co-operative consumer credit (1936), Personal finance comes of age (1939) (Harper). Dir. W. W. in Bus., Who Knows—and What, Dir. of Schol.

NEISSE, Hans Philipp, 128 Bellmore St., Floral Park, L.I., N.Y. (1933) New School of Soc. Res., Grad. Faculty of Polit. and Soc. Sci., prof., dept. head, teach., res., edit.; b. 1895; U.J.D., 1919, S.S.D., 1921, Univ. of Breslau (Germany). Fields 1ac, 6, 10. Doc. dis. Law of diminishing returns (in German) (Archiv f. Soz. W., 1921). Pub. Exchange value of money (in German) (G. Fischer, Jena, 1927); Some international aspects of business cycle (Univ. of Pennsylvania Press, 1936); A note on Pareto's theory of production (Econometrica, 1940). Res. International trade at various levels of economic activities. Dir. Who Knows—and What.

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NELSON, Benjamin N., 395 Riverside Dr., New York 25, N.Y. (1946) Univ. of Minnesota, asst. prof. of soc. sci., teach., res., edit.; b. 1911; B.A., 1931, City of New York; M.A., 1933, Ph.D., 1944, Columbia. Fields 2, 1ab, 4. Doc. dis. Restitution of usury in later medieval ecclesiastical law. Pub. "Usurer and merchant-prince: Italian businessmen and Ecclesiastical law of restitution, 1100-1550," Jour. of Econ. Hist., 1947; "Legend of

divine surety and Jewish moneylender" (with J. Starr), Annuaire de l'Institut de Philologie et d'Histoire Orientales et Slaves, reissued, 1948. Res. Usurer and merchant-prince in Renaissance life; restitution of usury and illicit gains in Renaissance Florence with particular reference to Medici family.

NELSON, Carl Leroy, Univ. of Minnesota, School of Bus. Admin., Minneapolis 14, Minn. (1934)

NELSON, Eastin, Univ. of Texas, Dept. of Econ., Austin 12, Texas. (1944) Univ. of Texas, asso. prof. of econ., teach.; b. 1902; B.A., 1928, Stephen F. Austin State Col.; M.A., 1929, Ph.D., 1945, Texas. Fields 2, 4ab. Doc. dis. Development of economic policy in Republic of Panama. Pub. "Economic theory implicit in Panamanian Constitution of 1940," Tulane Law Rev., June, 1942; "Growth of refined sugar industry in Mexico," Southwestern Soc. Sci. Quar., Mar., 1946; "Economic policy in Declarations of Chapultepec," Accion Inter-Americana, July, 1945. Res. National banking systems of Latin America.

NELSON, Edward Gene, 615 Tennessee St., Lawrence, Kan. (1938)

NELSON, Esther Ethel, Hudson View Gardens, 155, 183rd St. and Pinehurst Ave., New York 33, N.Y. (1943)

NELSON, George J., 983 Park Ave., New York 28, N.Y. (1943) Laird, Bissell & Meeds, econ.; Supradur Corp. of N.Y., vice-pres., treas.; bus., res.; b. 1905; 1926, Cambridge, England; 1926, London School of Econ.; M.A., 1932, Berlin Univ.; 1942-45, New York. Fields 8b, 7, 10.

NELSON, James Cecil, Washington State Col., Dept. of Econ., Pullman, Wash. (1936) State Col. of Washington, Dept. of Econ., prof., teach., res., govt. serv.; b. 1908; B.A., 1930, Univ. of Washington; M.A., 1931, Ohio State; 1933-34, Brookings; Ph.D., 1934, Virginia. Fields 13, 12, 1a. Doc. dis. Extent and status of motor transport regulation in U.S. Pub. Federal regulatory restrictions upon motor and water carriers (Bd. of Invest. and Res., 1945); Transportation factors in location of cast iron pipe industry (with R. C. Smith) (Govt. Prtg. Office, 1947); "A research basis for corrective action with respect to interterritorial freight rates," Law and Contempt. Prob., 1947. Res. Rate control standards of Interstate Commerce Commission in cases involving interagency competition; rate control as device to influence economic allocation of resources in transport. Dir. W.W. in Railroadng, Dir. of Schol.

NELSON, James R., 61 S. Professor St., Oberlin, Ohio. (1947)

NELSON, Moses, 485 Riverdale Ave., Brooklyn 7, N.Y. (1947)

**NELSON, Myrtle Gill (Mrs. Roger S.), 1530 16th St., N.W., Apt. 108, Washington 6, D.C. (1947) Bur. of the Budget, Exec. Office of the Pres., fiscal anal., govt. serv., res.; b. 1922; B.A., 1943, New Jersey Col. for Women; M.A., 1944, Fletcher School of Law and Diplomacy. Fields 5, 10, 9. Res. Comparison of current social accounting methods.

NELSON, Paul Edwin, Jr., 254 Campus Ave., Ames, Iowa. (1948) Iowa State Col., instr., res., asso., teach., res.; b. 1921; B.A., 1943, Oberlin; M.A., 1946, American; 1945-48, Iowa State. Fields 17bd, 15b, 2a. Res. Cost of locker plant and home freezing in Iowa; development of techniques for making an economic analysis of Iowa school lunch program.

NELSON, Peter, A. and M. Col., Stillwater, Okla. (1929)

NELSON, Richard Ward, 324 Mansion Dr., Alexandria, Va. (1922) Bur. of Int. Rev., sr. tax advisor, govt. serv.; b. 1899; B.S.C., 1921, M.A., 1923, Ph.D., 1929, Iowa; 1924, Harvard. Fields 9, 5, 1. Doc. dis. Assessment of real estate in Iowa and other midwestern states (Univ. of Iowa, 1931). Pub. Banking and the business cycle (Macmillan, 1936); What makes taxes high (Alexander Hamilton Inst., 1931); "Problem of assessment administration," Com. Law Jour., 1931.

NELSON, Roger Sherwood, 1530 16th St., N.W.,

- Apt. 108, Washington 6, D.C. (1945) **Bur. of the Budget, Exec. Office of the Pres., fiscal anal.; George Washington Univ., lecturer in econ., govt. serv., teach., res.; b. 1913; B.A., 1935, Yankton; Ph.D., 1948, California. Fields 10, 9, 5. Doc. dis. "Federal financial aid for urban housing," Jour. of Land and Pub. Util. Econ., May, 1945; "Export subsidies and agricultural income," Jour. of Farm Econ., Aug., 1941. Res. Analysis of prospective trends in U.S. exports and imports; comparison of current social accounting methods.**
- NELSON, Saul, Econ. Div., Office of M.I. Gov. U.S., APO 742, c/o Postmaster, New York, N.Y. (1939)**
- NELSON, Warren, State Teachers Col., Div. of Soc. Studies, Bemidji, Minn. (1948)**
- NERLOVE, Samuel Henry, Univ. of Chicago, Chicago 37, Ill. (1943) Univ. of Chicago, prof. of bus. econ., teach., res.; b. 1901; A.M., 1923, Chicago. Fields 1a, 8bc, 11ac. Pub. Corporate incomes, 1920-29 (1930), Outlines of economic order (1929) (Univ. of Chicago Press); "War expansion and price inflation," Jour. of Bus., 1942. Res. Business economics; an introduction to risk and risk bearing; capital markets since 1930. Dir. W.W. in Mid-West.**
- NETREBA, Sydney S., 3412 10th Pl., S.E., Washington 20, D.C. (1948)**
- NETZER, Dorothy Marion, 7846 Avalon Ave., Chicago 19, Ill. (1946) John A. Hertel Co., treas.; Loyola Univ., School of Com., lecturer, teach., bus.; b. 1916; B.S.C., 1945, Loyola; M.B.A., 1948, Chicago. Fields 8a, 2a, 1a.**
- NEUFELD, Maurice Frank, 2 Hawthorn Circle, Ithaca, N.Y. (1946) New York State School of Ind. and Labor Rel., Cornell Univ., prof., teach., res., edit.; b. 1910; B.A., M.A., 1932, Ph.D., 1935, Wisconsin. Fields 16, 14a, 12b. Doc. dis. Influence of world's Columbian Exposition of 1893 on idea of a planned civilization in U.S. Pub. Rural tax delinquency in New Jersey, 1929-34 (N.J. State Planning Bd., 1938); "New York state defense production plan," Pub. Admin. Rev., 1941; American experiences in military government in World War II (with G. C. S. Benson) (Rinehart, 1948). Res. History and government of individual trade unions in U.S. Dir. W.W. in East.**
- NEUHOF, Ralph Robert, 414 Rialto Bldg., 220 N. 4th St., St. Louis 2, Mo. (1944) Neuhoif, Neuhoif, Tremayne & Schaefer, partner, bus.; b. 1894; LL.B., 1916, Washington Univ. Pub. "Standard clauses for wills," Trusts and Estates, Mar.-Aug., 1946; "Deductions, exemptions and credits in state inheritance and estate taxation," Mar., 1941, "Gross incomes and deductions under state income tax laws," Jan., 1937, Iowa Law Rev.**
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- NEUNER, Edward John, Jr., Univ. of Tennessee, Knoxville, Tenn. (1948) Univ. of Tennessee, asst. prof., teach., res.; b. 1921; B.A., 1944, Brooklyn; M.A., 1945, Wisconsin. Fields 13a, 4ab, 16. Pub. "Wages and employment in public utility industries," Jour. of Land and Pub. Util. Econ., Oct., 1946. Res. Financial and operating analysis of TVA power distributors.**
- NEUSTADT, Richard Elliott, Exec. Office of Pres., Bur. of Budget, Washington 25, D.C. (1945)**
- NEVIN, Jerome R., 180 Claremont Ave., New York 27, N.Y. (1947)**
- NEWARK, Christine, Ohio State Univ., School of Home Econ., Columbus 10, Ohio. (1945) Ohio State Univ., Home Mgt. Div., School of Home Econ., chmn., asso. prof.; teach.; b. 1909; B.S., 1930, Michigan State; M.A., 1937, Columbia; Ph.D., 1945, Iowa State Col. Fields 17d, 15e.**
- NEWBURY, Frank Davies, 377 Briar Cliff Rd., Pittsburgh 21, Pa. (1945) Retired; b. 1880; Mech. Eng., 1901, Cornell Univ. Fields 6, 14a, 1a. Pub. "A forecast of business prospects," Harvard Bus. Rev., Spring, 1947; "What's ahead for industry," Ind. Mktg., June, 1947. Res. Economics of American industry, Dir. W.W. in Amer.**
- NEWCOMER, Mabel, Vassar Col., Poughkeepsie, N.Y. (1915) Vassar Col., prof., dept. head, teach., res.; b. 1891; A.B., 1913, A.M., 1914, Stanford; Ph.D., 1917, Columbia. Fields 9, 10, 12a. Doc. dis. Separation of state and local revenues in U.S. (Longmans, 1917), Pub. Central and local finance in England and Germany (1937), Taxation and fiscal policy (1940) (Columbia Univ. Press); Facing the tax problems (with others) (Twentieth Century Fund, 1937). Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.**
- NEWMAN, Herbert Ellis, Univ. of Delaware, Newark, Del. (1940) Univ. of Delaware, asso. prof. of econ. and bus. admin., teach., res.; b. 1914; 1931-32, Chicago; A.B., 1936, Birmingham-Southern Col.; A.M., 1938, Ph.D., 1940, Virginia. Fields 9, 1ab, 7. Res. Survey of Delaware state highway finance.**
- NEWMAN, Philip Charles, 7215 41st Ave., Jackson Heights, N.Y. (1942) Univ. of Detroit, prof., teach., res., govt. serv.; A.B., 1938, M.A., 1940, Ph.D., 1943, Columbia; 1947-48, Detroit. Fields 1b, 12, 10. Doc. dis. Labor legislation of New Jersey (Amer. Coun. on Pub. Affairs, 1943). Pub. Economic structure of the peace (Univ. of Puerto Rico, 1945); "German potash cartels under Nazi regime," Quar. Jour. of Econ., Aug., 1948. Res. Industrial organization and control; theory and practice of imperfect competition.**
- NEWMAN, William H., Univ. of Pennsylvania, Wharton School, Philadelphia, Pa. (1939) Univ. of Pennsylvania, Wharton School, prof.; Columbia Univ., School of Bus., lecturer, teach.; b. 1909; A.B., 1930, Friends Univ.; Ph.D., 1934, Chicago. Fields 11a, 12b, 6. Doc. dis. Building industry and business cycles (Univ. of Chicago Press, 1935). Pub. Business policies and management (South-Western, 1940, 1947); "Government-industry co-operation that works," Pub. Admin. Rev., Summer, 1946; "Nature of business organization and administration," in Business administration (Amer. Inst. of Banking, 1947). Res. Theory of administration.**
- NEWMYER, Alvin Samuel, 75-13 167th St., Flushing, N.Y. (1946) Shell Oil Co., Inc., anal., bus., res., edit.; b. 1915; B.A., 1937, Pennsylvania State Col.; M.A., 1940, Pennsylvania; 1946-47, New York. Fields 11a, 3c, 6.**
- NICHOLAUS, Herbert A., College Campus, Lake Forest, Ill. (1945) Lake Forest Col., prof. of econ. and acctg., dept. head, teach.; b. 1909; B.A., 1931, Lawrence; Ph.D., 1932, 1945-48, Wisconsin. Fields 11, 8ab, 9. Res. Economic aspects of professional management counseling (doc. dis.).**
- NICHOLLS, William Durrett, Kentucky Agric. Exp. Sta., Dept. of Farm Econ., Lexington 29, Ky. (1929) Univ. of Kentucky, Col. of Agric., prof., dept. head, teach., res.; b. 1885; B.S., 1907, M.S., 1915, Kentucky; Ph.D., 1926, Cornell Univ. Fields 15ab, 3, 1. Doc. dis. Analysis of cost of producing tobacco (Agric. Exp. Sta., Univ. of Kentucky, 1927). Pub. Farm organization and management in Mason County, Kentucky (with C. U. Jett and Z. L. Galloway) (Bul. 253, 1924), Farm tenancy in central Kentucky (Bul. 303, 1930), Systems of farming in central Kentucky (with G. B. Byers and J. H. Bondurant) (Bul. 419, 1941), (Agric. Exp. Sta., Univ. of Kentucky). Res. Study of farm labor; effective farm management systems in Kentucky; cost of producing farm products in Kentucky. Dir. W.W. in Amer.**
- NICHOLLS, William Hord, Vanderbilt Univ., Dept. of Econ. and Bus. Admin., Nashville 4, Tenn. (1942) Vanderbilt Univ., prof. of econ., teach., res.; b. 1914; A.B., 1934, Kentucky; M.A., 1938, Ph.D., 1941, Harvard; 1941-42, Chicago. Fields 15hd, 12, 1a. Doc. dis. Theoretical analysis of imperfect competition, with special application to agricultural industries (Iowa State Col. Press, 1941). Pub. Labor productivity functions in meat packing (Univ. of Chicago Press, 1948); "Social biases and recent theories of competition," Q.J.E., Nov., 1943; "A price policy for agriculture," Jour. of Farm Econ., Nov., 1945. Res. Imperfect competition in American cigarette industry; economics of underdeveloped regions, with special**

reference to Southern agriculture. Dir. Who Knows—and What.

NICHOLS, John David, 1438 Vassar Dr., Toledo, Ohio. (1947) H. O. Nichols Co., vice-pres., bus.; Ph.B., 1945, Toledo. Fields 11a, 4ab, 14c.

NICHOLS, John Raymond, 348 15th Ave., Columbus 1, Ohio. (1945) Ohio State Univ., asst. instr., teach.; b. 1917; A.B., 1941, Baldwin-Wallace; M.A., 1946, 1947-48, Ohio State. Fields 8ab, 7, 10.

NICKLAUS, George Edward, 1109 N. Christiana Ave., Chicago 51, Ill. (1947) Standard Oil Co. (Ind.), statis. anal., bus., res.; b. 1920; B.A., 1946, M.A., 1947, Wisconsin. Fields 3a, 14a, 1a.

NICOL, Helen Osterteth (Mrs. Allen H.), 4823 Chevy Chase Dr., Chevy Chase 15, Md. (1943) George Washington Univ., teach.; b. 1906; A.B., 1926, Viktoria-Luise (Berlin); M.S., 1942, Columbia; 1943-44, Radcliffe; Ph.D., 1948, George Washington. Fields lab, 6, 10. Doc. dis. Arthur Spiethoff's contribution to business cycle theory.

NICOLAYSEN, Albin G., 526 Broad St., Bank Bldg., Trenton, N.J., (1942)

NICOLS, Alfred, Univ. of California, Dept. of Bus. Admin., Los Angeles 24, Calif. (1943) Univ. of California, asst. prof., teach.; b. 1917; A.B., 1941, California at Los Angeles; M.A., 1944, Ph.D., 1945, Harvard. Fields 12a, 6, 1a. Doc. dis. Cyclical adjustments under oligopoly. Pub. "Rehabilitation of pure competition," Q.J.E., Nov., 1947; "Prices and production: a model," Proceed., Pacific Coast Econ. Assn., 1947. Res. Competition and economic development; distribution and economic progress; cyclical adjustments under oligopoly.

NIEBYL, Elizabeth Crosby Hale (Mrs. Karl H.), Stony Sides, Westport, Essex Co., N.Y. (1946) Housing econ., res.; b. 1912; A.B., 1934, Vassar; 1935, 1941, American. Fields 15e, 16, 17b. Res. Housing programs and organized labor.

NIEBYL, Karl Heinrich, Stony Sides, Westport, Essex Co., N.Y. (1943) Assn. Col. of Upper New York, prof. of econ., teach.; b. 1906; 1923-25, Inst. of Tech. (Hanover); 1929-30, Univ. of Paris; 1930-31, Univ. of Berlin; Diplomkaufmann, 1932, Univ. of Frankfurt; 1932-34, London School of Econ.; Ph.D., 1935, Wisconsin. Fields lab, 7, 16. Doc. dis. Change in function of trade unionism during epoch of imperialism. Pub. Studies in classical theories of money (Columbia Univ. Press, 1946, 2nd print, 1948); "Need for a concept of value in economic theory," Q.J.E., Feb., 1940; "Re-examination of classical theory of inflation," A.E.R., Dec., 1940. Res. Theory of foreign public investments. Dir. Dir. of Schol.

NIEHAUS, Fred Raymond, Univ. of Colorado, School of Bus., Boulder, Colo. (1935) Univ. of Colorado, prof. of fin., teach., res., govt. serv.; b. 1899; A.B., 1923, Washburn; M.B.A., 1928, Harvard; Ph.D., 1938, Stanford. Fields 8ac, 7, 11a. Pub. Development of banking in Colorado (Mountain States Pub. Co., 1942).

NIELANDER, William Ahlers, Hofstra Col., Hempstead, N.Y. (1939) Hofstra Col., dept. head, teach.; b. 1901; B.S., 1930, Pittsburgh; M.S., 1931, Ph.D., 1945, Columbia. Fields 11ab, 17d, 4c. Doc. dis. Wartime food rationing in U.S. (World Trade Rela., 1947). Pub. Chapters in Marketing handbook (Ronald Press, 1948); "An employee's idea about his co-operative," Amer. Co-operation, 1947; "Public relations for women," Eleusis of Chi Omega, Feb., 1948. Res. Public relations.

NIELSEN, A. Evald, 445 N. Main St., Bowling Green, Ohio. (1945)

NIELSEN, Alice Lenore, 3711 Horner Pl., S.E., Washington 20, D.C. (1944)

NIELSEN, Axel, Wilh. Smidtsvej 7, Gentofte, Denmark. (1946) Univ. of Copenhagen, prof.; b. 1830; Dr. of polit. sci., Univ. of Copenhagen. Fields 7, 2a, 6.

NIELSEN, Oswald, 5401 Kellogg Ave., Minneapolis 10, Minn. (1929)

NIENBURG, Bertha Marie, 1725 New Hampshire Ave., N.W., Washington 9, D.C. (1947) Ind. Survey and Res. Serv., asso. dir., res., bus.; B.L., 1922, California. Fields 14ac, 16, 11b. Pub. Conditions in millinery industry (W.B. 169, 1939), Ap-

plication of labor legislation to fruit and vegetable canning and preserving industry (W.B. 176, 1941). Potential earning power of southern mountain handicraft (W.B. 128, 1935) (U.S. Dept. of Labor). Res. Market demand surveys. Dir. W.W. in East, in Com. and Ind.

NIEUWEJAAR, Otto, North Orange, Mass. (1948)

NIGHTINGALE, Edmund Anthony, Univ. of Minnesota, School of Bus. Admin., Minneapolis 14, Minn. (1936) Univ. of Minnesota, School of Bus. Admin., asso. prof. of econ. and transp., teach., res., govt. serv.; b. 1903; B.B.A., 1933, M.A., 1936, Ph.D., 1944, Minnesota. Fields 13ab, 9, 15ab. Doc. dis. Taxation in Great Britain: an economic analysis of British taxation with special reference to organization and administration of national tax system. Pub. Minnesota resources: an economic background for class rate investigation (Minn. Resources Com., 1942); "Class rate case and Minnesota agriculture," Farm Bus. Notes (Univ. of Minnesota), 1946; "Should U.S. adopt British system of assessing realty?" Nat. Munic. Rev., 1944. Res. Effects of postwar changes in freight rates on economy of upper Midwest.

NILSSON, Arthur Edward, Cornell Univ., School of Bus. and Pub. Admin., Ithaca, N.Y. (1927) Cornell Univ., prof. of fin., teach.; b. 1900; B.S.C.E., 1922, Tufts; M.B.A., 1924, Harvard; Ph.D., 1931, Yale; 1932-33, Western Reserve. Fields 8ab, 11ac, 7. Doc. dis. Property tax delinquency—Ohio. Res. Corporation finance.

*NIMER, Daniel A., 7545 Kingston Ave., Chicago 49, Ill. (1947) Univ. of Chicago, student; b. 1921; 1946-47, De Paul; 1947, Roosevelt; 1947-48, Chicago. Fields 10, 7, 4b. Res. Export-import policy of Great Britain, 1946-47.

NITTINGER, Ralph Alfred, Univ. of Pennsylvania, Wharton School, Econ. Dept., Philadelphia 4, Pa. (1944)

*NIXON, John Harmon, Harvard Univ., L-11 Dunster House, Cambridge 38, Mass. (1943) Harvard Univ., student; Dunster House, sr. tutor; teach., res.; b. 1915; A.B., 1935, Swarthmore; 1946-48, Harvard. Fields 12, 14a, 7. Res. Lumber industry (doc. dis.) Dir. W.W. in New England.

NIXON, Stanley E., 7490 Bayard Ave., Montreal 30, Que., Canada. (1947)

NOBLE, Clarence Vernon, Agric. Exp. Sta., Gainesville, Fla. (1919) Univ. of Florida, prof. of agric. econ., asso. dean, dept. head, res. teach.; b. 1885; B.S., 1916, Ph.D., 1920, Cornell Univ. Fields 15a, 17ad, 1a. Doc. dis. Cost of living in a small factory town (Cornell Univ. Bul. 431, 1924). Pub. Cost accounts for six years on some successful New York farms (co-author) (Cornell Univ. Bul. 414, 1923); Florida truck crop competition, I. Interstate and foreign (co-author) (Bul. 224, 1931), Florida farm prices (co-author) (Bul. 399, 1944) (Fla. Agric. Exp. Sta.), Dir. W.W. in Florida.

NOBLE, John Hezekiah, Armour and Co., Res. Div., U.S. Yards, Chicago 9, Ill. (1941) Armour and Co., asst. comptroller, dept. head, res.; b. 1899; B.A., 1922, Simpson Col.; M.B.A., 1925, Harvard. Field 11a.

NOETZEL, Arthur Jerome, John Carroll Univ., School of Bus., Econ., and Govt., Cleveland 18, Ohio. (1940) John Carroll Univ., asso. prof., asst. dean, teach.; b. 1916; B.S. in B.A., 1938, John Carroll; M.B.A., 1940, Northwestern; 1940-41, Michigan. Fields 11ac, 3a, 1c. Pub. Transportation and future of Venezuela (Transportation, Inc., 1946).

NOETZEL, Grover A. J., 1916 Ferdinand St., Coral Gables 34, Fla. (1934) Univ. of Miami, prof. of econ., teach., res.; b. 1908; 1929-30, Univ. of London; Ph.D., 1934, Wisconsin; 1935-36, Univ. of Geneva (Switzerland). Fields 10, 4ab, 1ab. Doc. dis. Recent theories of foreign exchanges. Res. Nature of development of "etatism" in U.S. Dir. of Schol.

NOLAN, Raymond Franklin, 135 E. 42nd St., Room 2811, New York 17, N.Y. (1945) Texas Co., bus.; b. 1912; B.S., 1945, M.B.A., 1946, New York. Fields 11ab, 6, 14a.

- NOLEN**, Russell M., Univ. of Illinois, Urbana, Ill. (1931)
- NORBY**, John C., Univ. of Minnesota, School of Bus. Admin., Minneapolis 14, Minn. (1947)
- NORDIN**, John A., 2621 Knapp, Ames, Iowa. (1946) Iowa State Col., asst. prof., teach., res.; b. 1916; B.A., 1935, M.A., 1937, Ph.D., 1941, Minnesota. Fields 1ac, 13a, 3. Doc. dis. Some criteria for determination of period of production. Pub. "Determining sample size," Jour. of Amer. Statis. Asso., Dec., 1944; "The marginal cost controversy: a reply," *Economica*, May, 1947; "Allocating demand costs," Jour. of Land and Pub. Util. Econ., May, 1946. Res. Public utility depreciation methods and rate structures.
- NORDSTROM**, Oscar Leonard, Augustana Col., Rock Island, Ill. (1937)
- NORGREN**, Paul Herbert, Dept. of Econ., Stanford University, Calif. (1941) Stanford Univ., acting prof., teach.; b. 1903; B.S., 1927, Worcester Poly. Inst.; M.A., 1937, Ph.D., 1940, Harvard. Fields 16, 17abc, 1a. Doc. dis. Swedish collective bargaining system (Harvard Univ. Press, 1941). Pub. "Collective wage-making in Sweden," J.P.E., Dec., 1938; "The overrated engineer," North Amer. Rev., Apr., 1934. Res. Analysis and appraisal of Labor-management Relations Act of 1947; relations between Canadian and U.S. labor movements.
- NORMAN**, Charles Baker, 1448 W. Euclid Ave., Stockton, Calif. (1938) Col. of Pacific, prof., dept. head., teach.; b. 1900; A.B., 1922, DePauw; Ph.D., 1933, Stanford. Fields 6, 16, 9.
- **NORMAN**, Marian Toll (Mrs. Charles B.), 1448 W. Euclid, Stockton, Calif. (1947)
- NORMAN**, Theodore, 6629 Chestnut St., Chevy Chase, Md. (1941)
- NORRIS**, Nilan, Hunter Col., 695 Park Ave., Dept. of Econ., New York 21, N.Y. (1936) Hunter Col., Dept. of Econ., asst. prof., teach., res., bus.; b. 1907; A.B., 1930, M.A., 1932, Ph.D., 1940, Stanford; summer, 1930, Chicago; 1937-38, Columbia. Fields 3ab, 1ac, 11ac. Doc. dis. Some contributions to theory of statistical average (Stanford Univ. Press, 1940). Pub. "Convexity properties of generalized mean value functions," June, 1937, "Some efficient measures of relative dispersion," Sept., 1938, "Standard errors of geometric and harmonic means," Dec., 1940, *Annals of Mathematical Statis.* Res. Incidence of public utility taxes; some efficient measures of absolute dispersion for samples drawn from non-normal universes. Dir. Who Knows and What.
- NORTH**, Max H., Accokeek, Md. (1944)
- NORTHROP**, Mildred Benedict, Bryn Mawr Col., Bryn Mawr, Pa. (1942) Bryn Mawr Col., prof., dept. head, teach., res.; b. 1899; A.B., 1922, M.A., 1923, Missouri; Ph.D., 1938, Columbia. Fields 10, 12a, 5. Doc. dis. Control policies of Reichsbank, 1923-33 (Columbia Univ. Press, 1938). Res. Economic development in Mexico.
- NORTHROP**, Herbert Roof, 122 E. 22nd St., New York 10, N.Y. (1941) Columbia Univ., New York School of Soc. Work, asst. prof., teach., res.; b. 1918; A.B., 1939, Duke; A.M., 1941, Ph.D., 1942, Harvard. Fields 16, 17c, 13b. Pub. Organized labor and the Negro (Harper, 1944); Unionization of professional engineers and chemists (Ind. Rela. Coun., 1946); The "Model" labor law: an evolution of Railway Labor Act (Remsen Press, 1948). Res. Labor economics. Dir. W.W. in Educa., in Com. and Ind.
- *NORTON**, Hugh Stanton, 1907 I St., N.W., Washington, D.C. (1947) George Washington Univ., grad. asst.; b. 1921; 1940-41, Westminster Col.; A.B., 1947, George Washington. Fields 8b, 1a, 13b. Res. Capital formation in air transport industry.
- NORTON**, James E., Univ. of Notre Dame, 307 Farlay Hall, Notre Dame, Ind. (1948)
- NORTON**, John Raymond, St. John's Univ., 96 Schermerhorn St., Brooklyn 2, N.Y. (1941) St. John's Univ., Univ. Col., asst. prof., teach.; b. 1908; B.A., 1930, M.A., 1934, 1940-48, New York. Fields 2a, 1ab, 10. Res. Role of government in New York State economy: 1819-46 (doc. dis.).
- NORTON**, Thomas Lowell, 17 Lexington Ave., New York 10, N.Y. (1925) Col. of City of New York, School of Bus. and Civic Admin., dean.; b. 1900; B.S., 1923, Dartmouth; M.C.S., 1924, Amos Tuck School, Dartmouth; Ph.D., 1932, Columbia. Fields 16, 1a, 11a. Doc. dis. Trade union policies in Massachusetts shoe industry (Columbia Univ. Press, 1932). Pub. Old-age and Social Security Act (Foster and Stewart, 1937); Education for work (McGraw-Hill, 1938); Public education and economic trends (Harvard Univ., 1939). Dir. W.W. in Amer.
- *NORWOOD**, Bernard, 95 Orchard St., West Somerville 44, Mass. (1947)
- NOSAL**, Daniel Frederic, P.O. Box 1376, Stamford, Conn. (1947) Nosal Bros., bus.; b. 1928; 1946-48, Connecticut; summer, 1946, 1947, Columbia. Fields 8bc, 15dc, 11a.
- NOTHMAN**, Rudolf, 6003 $\frac{3}{4}$ Yucca St., Apt. 101, Hollywood 28, Calif. (1948) Arizona State Col., asst. prof. of econ., teach., res.; b. 1907; LL.B., 1929, Ph.D., 1932, Univ. of Hamburg; 1931-32, Univ. of Liverpool (England). Fields 10, 8c, 2a. Doc. dis. Das Versicherungs-Zertifikat (Friedrichsen, de Gruyter & Co. m.b.H., Hamburg, 1932). Res. Post-war industrial developments in Sweden.
- ††NOURSE**, Edwin Griswold, 3802 Jocelyn St., N.W., Washington 15, D.C. (1911) Exec. Office of Pres., Coun. of Econ. Advisers, chmn., govt. serv.; b. 1883; A.B., 1906, Cornell Univ.; Ph.D., 1915, Chicago. Fields 12, 4, 15. Doc. dis. Market mechanism as factor in price determination. Pub. America's capacity to produce (Brookings, 1934); "Meaning of price policy," Q.J.E., Feb., 1941; Price making in a Democracy (1944). Dir. W.W. in Amer.
- NOVICK**, David, Univ. of Puerto Rico, Rio Piedras, P.R. (1947) Univ. of Puerto Rico, visiting prof. of econ., teach.; b. 1906; Ph.B., 1929, Brown; M.A., 1930, Lafayette Col.; 1930-34, New York. Fields 14a, 4a, 7. Pub. Controlling war production (Columbia Univ. Press, 1948); "Wartime industrial statistics," Jour. of Amer. Statis. Asso., June, 1948; Economic problems of war (contrib.) (Wiley, 1942). Res. Economic responsibility under free enterprise system. Dir. W.W. in Com. and Ind.
- **NOVICK**, Mary B. (Mrs. David), Univ. of Puerto Rico, Rio Piedras, P.R. (1948)
- NOVOTNY**, Frances Katherine, 2311 Andrews Ave., New York 53, N.Y. (1944) Mutual Life Ins. Co., admin. officer and anal., res.; b. 1912; B.A., 1934, Hunter; M.B.A., 1944, 1944-48, New York. Fields 8ab, 7, 11a. Res. Investments of life insurance companies (doc. dis.).
- NOWICKI**, Robert J., 222 S. Grant St., Denver, Colo. (1945) Univ. of Denver, student; b. 1922; B.S., 1947, Marquette; 1947-48, Denver. Fields 1a, 3c, 8b.
- NOYES**, C(harles) Reinold, 455 E. 51st St., New York 22, N.Y. (1930) B. 1884; B.A., 1905, Yale. Fields 1, 7, 8. Pub. The institution of property (Longmans, Green, 1936); Economic man (Columbia Univ. Press, 1948). Dir. W.W. in Amer., Dir. of School.
- NUNN**, William Lee, Univ. of Minnesota, Minneapolis 14, Minn. (1937)
- NURKSE**, Ragnar, Columbia Univ., Fayerweather Hall, New York 27, N.Y. (1945) Columbia Univ., prof., teach., res.; b. 1907; 1926-28, Univ. of Tartu (Estonia); M.A., 1932, Edinburgh Univ.; 1932-35, Univ. of Vienna. Fields 10, 7, 6. Pub. Internationale Kapitalbewegungen (Springer, Vienna, 1935); International currency experience (1944), Course and control of inflation (1946) (League of Nations).
- NURNBERG**, Max, 447 Locust St., Pittsburgh 18, Pa. (1942) Allegheny Conf. on Community Develop., econ.; Carnegie Inst. of Tech., Econ. Dept. part-time instr.; res.; Diploma, 1913, Handels-hochschule Berlin; 1911-13, Univ. of Berlin, Wuerzburg; Ph.D., 1914, Heidelberg. Fields 15e, 6, 8ab. Doc. dis. How to measure correctly financial effect of taxes upon German industry (Braun, Karlsruhe, Germany, 1916). Pub. "Effect of business fluctuations upon public housing finance," Jour. of Land and Pub. Util. Econ., May, 1942; Housing survey of Pittsburgh and Allegheny

County (Allegheny Conf. on Community Develop., July, 1946). Res. Housing program for Pittsburgh and Allegheny County; housing demand.

NUSSBAUM, Frederick Louis, Univ. of Wyoming, Laramie, Wyo. (1943) Univ. of Wyoming, prof. of hist., teach., res.; b. 1885; A.B., 1906, 1911-13, Cornell Univ.; Ph.D., 1915, Pennsylvania. Field 2. Doc. dis. Commercial policy in French Revolution: study of career of G. J. A. Ducher (Amer. Hist. Asso., 1917). Pub. History of economic institutions of modern Europe: an introduction to Der Moderne Kapitalismus of Werner Sombart (F. S. Crofts, 1933); "Recent textbooks in European history," 1929, "Economic history of Renaissance Europe," 1941, Jour. of Modern Hist. Res. International finance and commerce in politics of Ancien Regime (1763-93). Dir. Lead. in Educa.

***NUTTER, Gilbert Warren**, 5021 Drexel Blvd., Chicago 15, Ill. (1947) Univ. of Chicago, res. asst.; b. 1923; A.B., 1944, Chicago; 1943-44, Nebraska. Fields 1a, 10, 12a. Res. Problem of quantifying extent and growth of effective enterprise monopoly in U.S., 1900-39. Dir. W.W. in Amer. Educa.

NYSTROM, Paul Henry, Columbia Univ., School of Bus., New York 27, N.Y. (1924) Columbia Univ., School of Bus., prof. of mktg.; Limited Price Variety Stores Assn., pres.; Central Coun. of Nat. Retail Asso., chmn.; teach., bus.; b. 1878; Ph.B., 1909, M.A., 1910, Ph.D., 1914, Wisconsin. Fields 11ab, 1ab, 16. Doc. dis. Economics of retailing (Ronald Press, 1915). Pub. Economics of fashion (1928), Economics of consumption (1932), Retail store operation (1936) (Ronald Press). Res. Economic and social effects of minimum wage and maximum hour legislation; the practical application of public relations management. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

OAKES, Eugene Ernest, 2222 Eye St., N.W., Washington 7, D.C. (1931) Jt. Comm. on Int. Rev. Taxation, econ.; Georgetown Univ., lecturer; govt. serv., teach.; b. 1909; B.S., 1931, Northwestern; M.A., 1933, Ph.D., 1934, Harvard. Fields 9, 6, 1b. Doc. dis. Studies in Massachusetts town finance (Harvard Univ. Press, 1937). Pub. "Federal offset and American death tax system," Q.J.E., Aug., 1940; "Incidence of general income tax," A.E.R., Mar., 1942; Taxation of pensions and annuities (Jt. Com. on Int. Rev. Taxation, 1946). Res. Death taxes in U.S.

OAKES, Ralph Hathaway, Marquette Univ., Milwaukee 3, Wis. (1942) Marquette Univ., prof., teach., res., bus.; b. 1898; Ph.B., 1925, M.B.A., 1938, Chicago. Fields 11ab, 12a, 1a. Pub. "Can a suburban community newspaper be an effective advertising medium?" Domestic Commerce, July, 1939. Res. Pricing policy in practice and theory; how can small retailer measure consumer attitudes towards his store, merchandise, and services? Dir. W.W. in Midwest.

OAKLEY, Cyrus Kindley, 4256 Botanical, St. Louis, Mo. (1937)

OBERING, William Frederick, 609 W. Copper Ave., Albuquerque, N.M. (1941)

O'BEIRNE, Bert Ellis, Michigan State Col., Dept. of Econ., East Lansing, Mich. (1942)

O'BRIEN, Maurice E., 1304 Forest Ave., Evanston, Ill. (1946)

OBRIEST, M. A., 153-15 88th Ave., Jamaica, N.Y. (1947)

O'CONNELL, Donald William, 606 W. 116th St., Apt. 84, New York, N.Y. (1940)

O'CONNOR, John J., 254 Seaman Ave., New York 34, N.Y. (1946) Equitable Life Assur. Soc., sr. appraiser; City Col. of New York, instr.; bus., teach., res.; b. 1918; B.A., 1939, Fordham; M.A., 1944, Columbia. Fields 15ade, 6, 8ab.

O'CONNOR, Michael J. L., Box 189, Sta. H., New York 25, N.Y. (1934) Rutgers Univ., asst. prof. of econ., teach., res.; b. 1907; B.S., 1927, City of New York; Ph.D., 1941, Columbia. Fields 1ab, 16, 2. Doc. dis. Origins of academic economics in U.S. (Columbia Univ. Press, 1944). Res. Economic theory in late 19th century U.S. Dir. Dir. of Schol.

ODERKIRK, Alvan Dean, U.S. Dept. of Agric., Poultry Br., PMA, Washington 25, D.C. (1941) U.S. Dept. of Agric., Production and Mktg. Admin., Poultry Br., mktg. spec., res., govt. serv.; b. 1905; B.S., 1926, North Dakota Agric. Col.; M.S., 1928, Iowa State Col.; 1940-41, Minnesota. Fields 15b, 11, 12b. Pub. "Methodology in marketing research," Poultry Sci., June, 1948; "Methods and costs of marketing Iowa Poultry and eggs," Proceed., Seventh World's Poultry Cong., 1939). Res. Prevention of loss and maintenance of quality in processing, packaging and handling of eggs; economic study of egg quality problem in Midwest area (doc. dis.).

O'DONNELL, Al F., Marlyn Apts., Cathedral Ave. at 39th, Washington, D.C. (1937)

O'DONNELL, Walter Gregory, R.F.D. 4, Delaware, Ohio. (1948) Florida State Univ., asso. prof., teach., res., govt. serv.; b. 1903; A.B., 1930, Western Reserve; LL.B., 1932, Cleveland Law; M.A., 1942, Western Reserve; 1943-47, Ohio State. Fields 1ab, 13, 16. Pub. "Economic status of teaching profession," Bul. of Amer. Asso. of Univ. Prof., Spring, 1947. Res. Economic planning and democracy; new foundations for economic theory; an institutional theory of value (doc. dis.).

OEHLERT, Benjamin H., Jr., 7 Hanover Sq., New York 5, N.Y. (1943) W. R. Grace & Co., vice-pres., bus.; b. 1909; B.S., 1930, LL.B., 1933, Pennsylvania. Fields 11, 12, 14.

OGDEN, Susie E., 409 W. Monroe St., Carbondale, Ill. (1946)

OGLE, George C., Haskell Hall, Tahlequah, Okla. (1948)

O'GRADY, John, 1317 F St., N.W., Washington, D.C. (1916)

O'HERN, Veronica Marie, 1400 Lake Shore Dr., Chicago 10, Ill. (1947) Commerce Clearing House, Labor Law Dept., editor, res., bus.; b. 1917; A.B., 1934, College of St. Teresa; 1946-48, De Paul. Field 16.

OHLLIN, Bertil, Stockholm Commercial Col., Stockholm, Sweden. (1947)

OHSOL, Johann Gottfried, 1815 Riverside Dr., New York 34, N.Y. (1913) Aberdeen Trading Co., partner, res., bus., govt. serv.; b. 1878; Cand. in Com., 1903, Poly. Inst., Comm. Dept. (Riga, Latvia); A.M., 1914, Ph.D., 1914, Harvard. Fields 4b, 12a, 16. Doc. dis. Recent Agrarian movement in Russia and its historical background. Pub. Government ownership or control of merchant shipping in Russia (Legis. Ref., Lib. of Cong., 1915); Contributions to report of the Fed. Trade Com. on the meat packing industry (Washington, D.C., 1919); Catalog of American industry and trade (contrib., in Russian) (Amtorg Trading Corp., 1927). Res. Economic problems of Latin America; barter schemes in international trade.

OKUDA, Kenji, Univ. of Puerto Rico, Dept. of Econ., Rio Piedras, P.R. (1947) Univ. of Puerto Rico, instr., teach.; b. 1922; 1940-42, Univ. of Washington; A.B., 1945, Oberlin; M.A., 1947, Harvard. Fields 12, 1, 7.

OKUN, Julius Leo, 3562 S. Stafford St., Arlington, Va. (1946) Dept. of Army, Ordnance Dept., commercial specialist, price adjust. consult., govt. serv.; b. 1916; B.B.A., 1940, 1940-42, City of New York. Fields 12b, 11ac, 14a.

OLDMAN, Oliver Sanford, 85 Crosby Blvd., Eggertsville 21, N.Y. (1946) Univ. of Buffalo, instr.; Lublin Construction Co., vice-pres.; bus., teach.; S.B., 1942, Harvard; 1946-48, Buffalo. Fields 1a, 14b, 10.

O'LEARY, Edmund Bernard, Univ. of Dayton, Dayton 9, Ohio. (1941) Univ. of Dayton, prof., dept. head, teach.; B.S.S., 1924, Ohio State; A.M., 1928, Chicago; Ph.D., 1938, Ohio State. Fields 8, 7, 11. Doc. dis. Co-operative wholesaling (Ohio State Univ. Press, 1944).

O'LEARY, James John, Life Ins. Asso. of Amer., 165 Broadway, New York 6, N.Y. (1941) Life Ins. Invest. Res. Com., res. dir., res.; b. 1914; B.A., 1936, M.A., 1937, Wesleyan Univ.; Ph.D., 1941, Duke. Fields 1ab, 8ab, 7. Doc. dis. Federal insurance of bank deposits. Pub. Future of long-term interest rates (Conn. Gen. Life Ins.

Co., 1945); "Consumption as a factor in postwar employment," A.E.R., May, 1945; "Malthus and Keynes," J.P.E., 1942.

O'LEARY, Paul Martin, Cornell Univ., McGraw Hall, Ithaca, N.Y. (1929) Cornell Univ., School of Bus. and Pub. Admin., dean, prof. of econ., teach., res., govt. serv.; b. 1901; A.B., 1922, Kansas; A.M., 1924, Harvard; Ph.D., 1929, Cornell Univ. Fields 12, 1a. Doc. dis. The Western Pacific and Rio Grande receiverships and reorganizations. Pub. Corporate enterprise in modern economic life (Harper, 1933); "Coinage legislation of 1834," J.P.E., Feb., 1937; "Banking groups in corporate reorganizations," A.E.R., June, 1939. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

OLIVER, E. L., 5631 Potomac Ave., N.W., Washington, D.C. (1928)

OLIVER, Henry Madison, Jr., Northwestern Univ., Econ. Dept., Evanston, Ill. (1938) Northwestern Univ., asso. prof., teach., res.; b. 1912; A.B., 1934, Southwestern; M.A., 1936, Ph.D., 1939, Duke. Fields 1a, 6, 4a. Doc. dis. Some concepts of economic justice. Pub. "Average cost and long-run elasticity of demand," J.P.E., June, 1947; "Marginal theory and business behavior," A.E.R., June, 1947; "Relationship between man-hour output and total output in American manufacturing industry," Q.J.E., Feb., 1941. Res. Relationship between pattern of demand and employment.

*OLIVER, Robert Warner, Princeton Univ., Dept. of Econ. and Soc. Inst., Princeton, N.J. (1948) Princeton Univ., instr.; b. 1922; A.B., 1943, A.M., 1948, Southern California. Fields 10, lab, 7.

OLIVER, Robert Wilson, 1654 Mount Eagle Pl., Alexandria, Va. (1944) U.S. Navy, Supply Corps, commander; on leave from N.Y. Stock Exch., asst. to chief statis.; American Univ., lecturer on invest. anal.; govt. serv., teach., res.; b. 1911; A.B., 1937, Long Island Univ.; B.S., 1940, M.B.A., 1942, New York; 1943-48, American. Fields 8ab, lab, 11a. Res. Units of trading on American securities exchanges.

OLKEN, Samuel Charles, 195 Broadway, Room 1212, New York 7, N.Y. (1948) Western Electric Co., commodity econ., bus.; b. 1900; A.B., 1922, S.B., 1923, Harvard; 1945-48, New School for Soc. Res. Fields 14, 15abcd, 10.

*OLM, Kenneth William, 1706 E. Silver, Albuquerque, N.M. (1947)

OLSEN, Arden B., Univ. of Denver, 211 Fifteenth St., Denver 2, Colo. (1946) Univ. of Denver, Col. of Bus. Admin., Dept. of Econ., chmn., prof. of econ., dir. of grad. studies, teach.; b. 1898; 1917-18, Snow Col.; B.S., 1926, M.S., 1929, Utah; Ph.D., 1935, California. Fields 2a, lab, 16. Doc. dis. History of Mormon mercantile co-operation in Utah.

OLSEN, Herluf Vagn, Dartmouth Col., Amos Tuck School of Bus. Admin., Hanover, N.H. (1924) Amos Tuck School of Bus. Admin., dean, teach.; b. 1899; B.S., 1922, M.A.(Hon.), 1937, Dartmouth; 1922-23, Univ. of Copenhagen; 1923-25, Chicago. Fields 6, 3. Dir. W.W. in Amer., Lead. in Educa.

OLSON, Albert, LaVerne, Augustana Col., Rock Island, Ill. (1937) Augustana Col., prof. of hist., teach., res.; b. 1895; A.B., 1924, Augustana; A.M., 1930, Northwestern; Ph.D., 1934, Yale. Fields 2a, 17a. Doc. dis. Economic background of Connecticut's westward movement. Pub. "Agricultural economy and population in 18th century" (Yale Press, 1935); "The freedom we defend," Marshall Rev., 1943. Dir. Dir. of Schol., Who Knows—and What.

OLSON, Ernest Charles, Board of Gov. of Fed. Res. System, Washington 25, D.C. (1948)

OLSON, Oscar Albert, 1604 E. Gordon St., McPherson, Kan. (1940) McPherson Col., prof., dept. head, teach.; b. 1899; B.S., 1928, Northern State Teachers Col.; A.M., 1932, Ph.D., 1939, Iowa. Fields 7, 8a, 1a. Doc. dis. Critical examination of principal methods proposed for stabilizing business, 1929-39. Dir. Dir. of Schol.

OLSON, Paul R., Univ. of Iowa, Iowa City, Iowa. (1945)

OMER, Charles W., Kent State Univ., Kent, Ohio. (1947)

OMOHUNDRO, Edgar Huntley, 4011 N. 11th St., Arlington, Va. (1940) U.S. Dept. of Agric., PMA, New Uses and Diversion Div., Cotton Br., head econ., chief, govt. serv.; b. 1897. Fields 14, 11b, 17d. Pub. Domestic cotton surplus programs (Misc. Pub. 557, U.S.D.A., 1945); "Consumption subsidies and new uses programs for cotton," Int. Ed. Cotton Trade Jour.; "Meeting the bag crisis," Daily News Record, Jan. 22, 1942.

O'NEILL, Harry J., St. Louis Univ., School of Com. and Fin., St. Louis, Mo. (1928)

OPIE, Redvers, 160 E. 48th St., New York 17, N.Y. (1926)

ORCHARD, John Ewing, Columbia Univ., School of Bus., New York 27, N.Y. (1940) Columbia Univ., School of Bus., prof. of econ. geog., dept. head, teach., res.; b. 1893; A.B., 1916, Swarthmore; A.M., 1920, Ph.D., 1923, Harvard; 1917-18, Pennsylvania; summer, 1920, Chicago. Fields 10, 15d, 14a. Doc. dis. World's coal resources and some of their economic implications. Pub. Japan's economic position (McGraw Hill, 1930); Oriental competition in world trade, Foreign Affairs, July, 1937; "Shanghai," Geographical Rev., Jan., 1936. Res. Industrialization of China. Dir. W.W. in Amer., Lead. in Educa.

ORDEN, (Mrs.) Susan Rabinowitz, 100 St. Mary's St., Boston 15, Mass. (1943) Harvard Bus. School, Bur. of Bus. Res., res. statis., res.; b. 1920; B.A., 1940, Hunter. Fields 12a, 14a, 16.

*ORDOGBADI, Abbas, Univ. of Maryland, College Park, Md. (1947)

ORLOFSKY, Abraham, 306 E. 85th St., New York 28, N.Y. (1948)

ORMES, Ferguson Reddie, Wabash Col., Crawfordsville, Ind. (1940) Wabash Col., Div. of Soc. Sci., chmn., prof., teach., bus.; b. 1891; A.B., 1912, Colorado Col.; A.B., 1913, Yale; A.M., 1925, Chicago. Fields 11c, 7, 1. Pub. Elementary analysis and interpretation of financial statements (Edwards Bros., 1941).

ORTH, A. Park, Dickinson Col., Dept. of Soc. Sci., Carlisle, Pa. (1947)

ORTON, William Aylott, Smith Col., Northampton, Mass. (1922) Smith Col., Econ. Dept., dept. head, teach., res.; b. 1889; B.A., 1919, M.A., 1921, Christs Col., Cambridge; M.Sc., 1922, D.Sc., 1945, London School of Econ.; LL.D., 1947, Boston Col. Fields 2a, 10. Pub. Twenty years armistice (Farrar and Rinehart, 1938); The liberal tradition (Yale Univ. Press, 1945). Res. Economic role of the state; American reparations policy in Germany. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

OSBERGER, Joseph Leonard, 3466 Bevis Ave., Evanston, Cincinnati 7, Ohio. (1947) Hamilton Co., comptroller, asst. secy.; Thomas Rome and Associates, comptroller, secy.; Rome Construction Co., secy., asst. treas.; b. 1913; B.A., 1935, Ohio State; 1935-36, Heidelberg Col. Fields 11, 8a, 3a.

OSBORN, Richards Clinton, Univ. of Illinois, 205 David Kinley Hall, Urbana, Ill. (1946) Univ. of Illinois, asso. prof. of econ., Bur. of Econ. and Bus. Res., teach., res.; b. 1908; 1926-29, Redlands; A.B., 1930, Stanford; M.A., 1933, Southern California; Ph.D., 1938, Illinois. Fields 8a, 13a, 1a. Doc. dis. Developments in state control of public utilities since 1930. Pub. "How is intellectual performance related to social and economic background," Jour. of Educa. Psych., Apr., 1943; "Statutory renegotiation: a critique," Acctg. Rev., Apr., 1947; "Financial manipulation of wartime profits," Opinion and Comment, Nov. 18, 1947. Res. Renegotiation of war profits; relative profitability of large, medium-sized and small business.

OSBORNE, Ernest Leslie, 3130 Wisconsin Ave., N.W., Washington 16, D.C. (1934) Dept. of Army, Office of Army Comptroller, Mgt. Div., colonel, mgt. anal., bus., govt. serv., res.; b. 1889; Ph.B., 1912, Yale; S.B., 1914, M.I.T.; 1933-34, Columbia; LL.B., 1922, LaSalle Ext. Univ. Fields 11, 6, 3. Pub. Consumers manual for handling codes of fair competition (Nat. Recovery Admin., 1934). Res. Management in Army by means of cost and

performance data; operating policies in business cycles (doc. dis.).

OSGOOD, Roy Clifton, 38 S. Dearborn St., Chicago 3, Ill. (1904) Retired; b. 1876; LL.B., 1903, George Washington. Fields 9, 5, 2b. Dir. W.W. in Amer.

O'SHEA, Vincent John, 260 Arleigh Rd., Douglas Manor, L.I., N.Y. (1932)

OSTAS, Max S., 416 N. Thomas St., Arlington, Va. (1940)

OSOVIETZ, Evelyn, 1622 N. Bentalou St., Baltimore 16, Md. (1947)

OSTER, Clinton V., Ohio State Univ., Dept. of Econ., Columbus 10, Ohio. (1947) Ohio State Univ., asst. instr.; Ohio Dept. of Taxation, Div. of Res. and Statis., statis.; teach., res.; b. 1920; 1937-39, Eastern Montana Normal School; B.A., 1946, Montana; M.A., 1948, Ohio State. Fields 9, 16, 4b. Res. Retai. sales taxation in Ohio and comparable states with emphasis on administrative problems.

OSTERBUND, Carter Clarke, 517 Great Falls St., Falls Church, Va. (1946)

OSTHEIMER, Richard Harmon, 22 Manning Circle, Pelham 65, N.Y. (1947) Columbia Univ., instr., teach., res.; b. 1922; A.B., 1943, A.M., 1946, Columbia. Fields 3ac, 1, 6.

OSTLUND, Harry J., Univ. of Minnesota, School of Bus., Minneapolis, Minn. (1920)

OSTRANDER, F. Taylor, Jr., Douglas Rd., Chappaqua, N.Y. (1943) Office of Econ. Adviser, OMGUS, econ., govt. serv.; b. 1910; B.A., 1932, Williams Col.; 1932-33, Oxford Univ.; 1933-34, Chicago; 1931, Geneva School of Int. Studies, Switzerland. Fields 12b, 10, 9. Pub. Postwar planning, a preliminary survey of important agencies (Pittsburgh Plate Glass Co., 1943); "Mitchell Committee's report on the cost of living index: comment." A.E.R., Dec., 1944.

OSTRUM, Alfred C., 1234 Kerper St., Philadelphia 11, Pa. (1943)

OTIS, Arthur Sinton, 4815 N. Capitol, Washington 11, D.C. (1946) Consult., res., edit., govt. serv.; b. 1886; A.B., 1910, A.M., 1915; Ph.D., 1920, Stanford. Fields 5, 6, 1ac. Pub. "Consistency of voting of our congressmen," Jour. of Applied Psych., Feb., 1948. Res. A method of electing by majority vote on first ballot when three or more candidates are running for one office. Dir. W.W. in Amer., in East. Lead. in Educa., Int. W.W.

OTIS, Delos Sackett, Mohawk Col., Utica 5, N.Y. (1947)

OTTE, Herman Frederick, Columbia Univ., 619 School of Bus., New York, N.Y. (1942)

OTTESON, Schuyler Franklin, 119 N. Jefferson St., Bloomington, Ind. (1945) Indiana Univ., asso. prof. of mktg., Bur. of Bus. Res., asso. dir., teach., res.; b. 1917; 1935-37, Eau Claire State Teachers Col.; Ph.B., 1939, Wisconsin; M.B.A., 1940, Northwestern; Ph.D., 1948, Ohio State. Fields 11b, 3a, 1a. Doc. dis. Marketing research techniques (abstract, Ohio State Univ., 1948). Pub. Cases in credits and collections (with T. N. Beckman) (Prentice-Hall, 1948).

OTTO, Erich A., Rutgers Univ., School of Bus. Admin., 40 Rector St., Newark 2, N.J. (1931)

*OVERMILLER, Charles S., Ohio State Univ., Dept. of Econ., Columbus 10, Ohio. (1947) Ohio State Univ., asst. teach.; b. 1920; 1940-41, George Washington; A.B., 1947, Ohio Wesleyan; 1947-48, Ohio State. Fields 7, 4, 9. Res. Theory of monetary decentralization (master's thesis).

OVERTON, Richard Cleghorn, Northwestern Univ., Commerce Bldg., Evanston, Ill. (1946) Northwestern Univ., Com. School, prof. of bus. hist., dept. head, teach., res.; b. 1907; A.B., 1929, A.M., 1934, Williams; Ph.D., 1944, Harvard. Fields 2a, 13b, 12b. Doc. dis. Burlington Road: a colonization history of Burlington Railroad (Harvard Univ. Press, 1941). Pub. "Westward expansion since Homestead Act," in Growth of American economy (Prentice-Hall, 1944); "Chicago becomes railway capital of nation," Jour. of Western Soc. Engineers, Dec., 1944; "Problems of writing history of large business units with special reference to railroads," Bul. of Bus. Hist. Soc., Feb., 1948. Res. Ideas and ideals of Charles E. Perkins; his-

tory at work; a survey of history for businessmen; a short history of Burlington Railroad.

OWEN, Edgar Lyle, Univ. of Tulsa, Tulsa 4, Okla. (1942) Univ. of Tulsa, prof., dept. head, teach.; b. 1906; A.B., 1927, Southwest Missouri State Col.; M.A., 1928, Ph.D., 1937, Wisconsin. Fields 9, 4a, 12b. Doc. dis. Taxation of economic surpluses, with particular reference to taxation of profits. Pub. "The source of taxes," Tax Mag., Aug., 1936; "Why tax business?" Bankers Mag., Mar., 1942; "A professor runs for office," Amer. Mercury, Aug., 1945.

OWEN, John Pipkin, Louisiana State Univ., Col. of Com., Dept. of Econ., Baton Rouge, La. (1946) Louisiana State Univ., instr., teach., res.; b. 1919; B.A., 1941, M.B.A., 1944, Louisiana; 1945-46, Wisconsin; 1944-45, 1946-47, Louisiana. Fields 16, 1a, 13ab.

OWEN, William Vern, Purdue Univ., West Lafayette, Ind. (1939) Purdue Univ., prof. of econ., teach.; b. 1894; 1914-16, summer, 1932, Iowa; Ph.B., 1920, Chicago; Ph.M., 1925, Wisconsin. Field 16. Pub. Labor problems (1946), Labor-management economics (1947) (Ronald Press); Economics and psychology of collective bargaining (with H. F. Rothe) (Stevenson, Jordan and Harrison, Chicago, 1948).

OWENS, Richard Norman, George Washington Univ., Washington 6, D.C. (1923) George Washington Univ., teach.; b. 1894; A.B., 1917, Missouri; A.M., 1922, Ph.D., 1928, Chicago. Field 11ac. Doc. dis. Business cycles in U.S. and England, 1866-80. Pub. Elements of accounting (with R. E. Taylor) (1930), Interest rates and stock speculation (with C. O. Hardy) (1924) (Macmillan); Business organization and combination (Prentice-Hall, 3rd ed. 1946). Res. Management. Dir. W.W. in Amer.

OXENFELDT, Alfred Richard, 565 Holt St., West Hempstead, N.Y. (1946) Hofstra Col., asso. prof.; Watkins & Oxenfeldt, partner; teach., bus., res.; b. 1917; B.S., 1937, Pennsylvania; M.A., 1938, Ph.D., 1942, Columbia. Fields 12, 1a, 6. Doc. dis. New firms and free enterprise (Amer. Coun. on Pub. Affairs, 1943). Pub. "Monopoly dissolution: a proposal outlined." A.E.R., June, 1946; "Businessmen's information about profitability of local enterprises" (co-author), J.P.E., June, 1947. Res. Performance of American industry.

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PABST, William Richard, Jr., 1963 39th St., N.W., Washington 7, D.C. (1932)

PACE, Lawrence, "St. Meggie," Simpson St., Marsa, Malta. (1946) Educa. Dept., teach.; b. 1919; 1934-38, St. Albert School, Valetta; B.Sc. (Econ.), London, 1947. Fields 10, 15d, 3a.

PACKARD, Howard Merrill, 1144 Main St., Racine, Wis. (1944) S. C. Johnson & Son, treas., bus.; b. 1910; B.S., 1932, Northwestern; LL.B., 1945, George Washington. Fields 11ac, 8a, 6.

PACKARD, Richard Montgomery, 99A Aspen Ave., Auburndale, Mass. (1936)

PADEN, Donald Witt, Univ. of Illinois, 424 David Kinley Hall, Urbana, Ill. (1943) Univ. of Illinois, asst. prof., teach.; b. 1913; B.A., 1935, M.A., 1936, Ph.D., 1942, Iowa. Fields 3a, 1ab, 6. Doc. dis. Economic consequences of a declining rate of population growth. Pub. "Industrial concentration of employment," Dec., 1945, "Recent trends in business population," May, 1946, Survey of Cur. Bus.; Delivery pooling for retail stores (U.S. Dept. of Com., 1943).

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PAIGE, Anna D. (Mrs. Harold W.), Headquarters Yukon Sector, APO 731, c/o Postmaster, Seattle, Wash. (1942)

*PALEKAR, Shreekant A., 165 A Vincent Rd., Jadar (GIP), Bombay, India. (1946)

PALMER, Dwight, 3123 W. Eighth St., Los Angeles 5, Calif. (1940) Dwight Palmer and Associates, res., bus.; b. 1904; A.B., 1925, Pomona Col.; M.A., 1926, Chicago; Ph.D., 1935, Stanford. Fields 1, 11, 16. Pub. "Why workers quit," Sept., 1944, "Industrial relations research," Jan., 1944, Personnel Jour.; "Industrial use of physically handicapped workers," School and Col. Placement, Oct., 1943. Res. Location of industry.

PALMER, Edgar Zavitz, 302 S. 28th St., Lincoln, Neb. (1927) Univ. of Nebraska, Dept. of Business, chmn., prof. of statis., res., teach., edit.; b. 898; B.A., 1919, Swarthmore Col.; Ph.D., 1928, Wisconsin. Fields 3ac, 1, 5. Doc. dis. Definition of income and comparison of class incomes. Pub. Kentucky incomes, a study of tax returns (1944), inheritance and estate taxes in Kentucky (with A. R. Sullivan and E. Sutton) (1947) (Ky. Dept. of Rev.); Prewar industrial pattern of Wisconsin Univ. of Wisconsin Bur. of Bus. and Res. and Serv., 1947). Res. Productivity and average compensation, by states and counties. Dir. Dir. of Schol.

PALMER, Gladys Louise, Univ. of Pennsylvania, Ind. Res. Dept., 3440 Walnut St., Philadelphia 4, Pa. (1920) Univ. of Pennsylvania, Ind. Res. Dept., res. asso.; Bur. of the Budget, Div. of Statis. Standards, consult.; res.; b. 1895; B.A., 1917, Barnard Col.; 1917-18, 1919-20, Bryn Mawr; b. 1924, Pennsylvania. Fields 16, 3c, 17ab. Doc. dis. Labor relations in lace and lace curtain industries in U.S. (U.S. Bur. of Labor Statis., Bul. 95, 1925). Pub. Union tactics and economic change Univ. of Pennsylvania Press, 1932; Urban workers on relief (with K. Wood) (WPA Div. of Soc. Res., 1937). Res. Long-term trends in Philadelphia labor market. Dir. Dir. of Schol.

PALMER, Jesse Taylor, R. 3, Herndon, Va. (1947) Univ. of Maryland, instr., teach., bus.; b. 903; B.S., 1923, M.S., 1930, Ph.D., 1936, Illinois. Fields 1ab, 15ab, 10. Doc. dis. Some effects of maintaining retail prices of whole milk at artificial levels (Amer. Farm Econ. Jour., 1936). Pub. The banana in Caribbean trade," Econ. Geog., July, 1932; "Place of pumice and pumicite in industry," Rock Products, Nov., 1931; "High whole milk prices encourage canned milk consumption," Milk Plant Monthly, Sept., 1935.

PALMER, Peter Fourie, 1117 S. Friends Ave., Whittier, Calif. (1948) Whittier Col., prof. of con., dept. head, teach., res.; b. 1903; B.A., 1925, M.A., 1926, Univ. of British Columbia; Ph.D., 1932, Stanford. Fields 9, 13ab, 15abcd. Doc. dis. A fiscal history of British Columbia in colonial period. Pub. "Regressive state revenue systems and their relation to state sovereignty," Feb., 1942, "Control of postwar inflation," Feb., 1943, Bul. of Nat. Tax Asso.; Economic base for power markets in Pacific Northwest (Bonneville Power Admin., Aug., 1946, Jan., 1947). Res. State taxation and federal grants-in-aid.

PALMER, Walter S., Jr., 201 State St., Reno, Nev. (1934)

PALMER, William Braman, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1934)

PALYI, Melchior, 211 W. Wacker Dr., Chicago, Ill. (1927)

*PAN, Yu-Pu, 1114 W. Oregon, Urbana, Ill. (1947)

PANCOAST, Elinor, 5108 Springlake Way, Baltimore 12, Md. (1923) Goucher Col., dept. head, prof., teach., govt. serv.; b. 1893; 1911-13, Texas; Ph.B., 1917, M.A., 1922, Ph.D., 1927, Chicago; 1918-9, Bryn Mawr Col. Fields 16, 17d, 9. Doc. dis. History of American Photo-Engravers Union. Pub. The incorrigible idealist: Robert Dale Owen in America (Principia Press, 1940). Res. Social security. Dir. Lead. in Educa., W.W. in East.

PANCOAST, Omar Borton, c/o BICO Food and Agric. Group, Frankfurt, Germany, APO 757, c/o Postmaster, New York, N.Y. (1941) OMGUS, Food Import Control Officer, econ., govt. serv.; b. 1910; B.S., 1932, Johns Hopkins; Ph.D., 1941, Columbia. Fields 12b, 4a, 1a. Doc. dis. Occupational mobility

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*PAPANDREOU, Andreas George, Univ. of Minnesota, Vincent Hall 220, School of Bus. Admin., Minneapolis 14, Minn. (1947) Univ. of Minnesota, School of Bus. Admin., asso. prof. of econ., teach., res.; b. 1919; 1937-40, Univ. of Athens; M.A., 1942, Ph.D., 1943, Harvard. Fields 12, lab, 5. Doc. dis. Location and scope of entrepreneurial function. Res. Economic structure and patterns of economic behavior.

PAPIER, William Bernard, 1018 Studer Ave., Columbus 6, Ohio. (1940) Ohio Bur. of Unemployment Comp., Div. of Res. and Statis., res. dir., res., edit.; b. 1910; B.S., 1932, M.A., 1933, 1933-34, Ohio State. Fields 16, 17b. Pub. Employment security in Ohio, 1942 (State of Ohio, 1943); "Seasonality of canning in Ohio," Soc. Sec. Bul., May, 1938. Res. Labor market research in Ohio; government aid in stabilization of employment; employment and pay roll trends in Ohio by county and industry. Dir. W.W. in Com. and Ind., in Central States.

*PARADISE, Filmer Melvin, 2121 E. Capitol Dr., Milwaukee 11, Wis. (1946) Soc. Sci. Res. Coun., pre-doctoral fellow, res.; b. 1919; B.A., M.A., 1942, Wisconsin; M.P.A., 1946, 1946-48, Harvard. Fields 16, 17b, 1a. Pub. "Collective bargaining in public employment," Jour. of State and Local Govt. Employees, Sept., 1942. Res. British trade union administration (doc. dis.).

PARIS, James Daniel, 83 Old Pond Rd., Great Neck, N.Y. (1935) Metropolitan Life Ins. Co., Bus. Res. Bur., res. assoc.; Columbia Univ., lecturer in statis.; res., teach.; b. 1908; A.B., 1929, A.M., 1931, Ph.D., 1938, Columbia. Fields 8c, 11b, 5. Doc. dis. Monetary policies of U.S., 1932-38 (Columbia Univ. Press, 1938).

PARISH, William Jackson, 3820 Mesa Verde Dr., Albuquerque, N.M. (1948) Univ. of New Mexico, asso. prof. of bus. admin., teach.; Ph.B., 1929, Brown; M.B.A., 1931, 1946-47, Harvard. Fields 7, 13a, 1a. Pub. "With due respect to Adam Smith," Southwestern Soc. Sci. Quar., Dec., 1943; "Small loan problem in New Mexico," N.M. Quar. Rev., Summer, 1944; New Mexico state budget system (Univ. of New Mexico, Dept. of Govt., Div. of Res., 1946). Res. The Charles Ifield Company—a frontier business history.

PARKER, Alfred, 30 Rockefeller Plaza, New York 20, N.Y. (1947)

PARKER, David Grant, 3168 W. 95th St., Cleveland 2, Ohio. (1948) Fenn Col., instr., asst. to dean, teach.; b. 1917; B.B.A., 1938, Fenn Col.; 1946-48, Western Reserve. Fields 2, 11.

PARKER, Glen Lawhon, 920 Washington Ave., Oakmont, Pa. (1946) Pittsburgh Consolidation Coal Co., bus. anal., bus.; b. 1911; B.A., 1930, M.A., 1931, Ph.D., 1939, Texas. Fields 12, 15c, 3c. Doc. dis. Coal industry—a study in social control (Amer. Coun. on Pub. Affairs, 1940). Res. Problems in coal mining industry.

PARKER, James Strong, 107 Kent Rd., P.O. Box 401, Glen Burnie, Md. (1936) Soc. Sec. Admin., Bur. of Old-Age and Survivors Ins., Anal. Div., res. econ., govt. serv., res., edit.; b. 1900; B.A., 1922, Beloit Col.; M.B.A., 1928, Northwestern; Ph.D., 1941, Wisconsin. Fields 17bcd, 16, 6. Doc. dis. Economic principles and policies of financial reserves in social security legislation. Pub. Social security reserves (Amer. Coun. on Pub. Affairs, 1942); "General income and inheritance taxation to finance federal old-age benefits," Bul. of Nat. Tax Asso., June, 1941; "True meaning of 'pay-as-you-go' in financing old-age retirement," Soc. Serv. Rev., Mar., 1942. Res. Financial implications of first ten years of operation of old-age and survivors insurance. Dir. W.W. in East.

*PARKER, John Murray, Dept. of Army, Office of Chief of Fin., Washington 25, D.C. (1947) U.S. Army, Fin. Dept., Lt. Col., govt. serv.; b. 1915; 1931-34, DePauw; 1941-42, George Washington; LL.B., 1940, Washington Col. of Law; M.B.A., 1948, Pennsylvania. Fields 7, 1a, 11ac.

PARMELEE, Julius Hall, Bur. of Railway

- Econ., Transp. Bldg., 17th and H Sts., Washington 6, D.C. (1917)
- PARMELEE**, Rexford Clark, 4700 47th St., N.W., Washington 16, D.C. (1931) Dept. of Com., Clearing Office for For. Transactions, asso. dir., govt. serv.; b. 1908; B.S., 1930, M.S., 1931, Ph.D., 1935, Illinois. Fields 10, 8a, 11c. Doc. dis. Position of investment trust in exportation of capital (privately published, 1935). Pub. Ownership of the 200 largest nonfinancial corporations (with others) (TNEC Mono. 29, 1941); "Foreign credits of U.S. Government," Survey of Cur. Bus., Dec., 1947. Res. Foreign transactions of U.S. Government, 1940-48. Dir. Dir. of Schol.
- PARNES**, Herbert S., Ohio State Univ., Dept. of Econ., Columbus 10, Ohio. (1948) Ohio State Univ., instr. in econ., teach.; b. 1919; A.B., 1939, M.A., 1941, Pittsburgh; 1947-48, Ohio State. Fields 16, 3a, 6.
- PARRISH**, John Bishop, Univ. of Illinois, Col. of Com. and Bus. Admin., Dept. of Econ., Urbana, Ill. (1944) Univ. of Illinois, asso. prof., teach.; b. 1911; A.B., 1934, Ph.D., 1938, Illinois. Field 16. Doc. dis. Some aspects of relationship between real wages and supply of labor. Pub. "Nation's labor supply, 1930-37," A.E.R., June, 1939; "Women in nation's labor market," Q.J.E., May, 1940; "Impact of World War II on internal wages," Southern Econ. Jour., July, 1947. Res. Major changes in labor market, 1940-50. Dir. W.W. in Ill.
- PARROTT**, D'Arcy, 65 Broadway, New York 6, N.Y. (1940) Fahnstock & Co., Advisory and Res. Dept., mgr.; b. 1899; A.B., 1921, Princeton. Field 8b.
- PARRY**, Carl Eugene, 4000 Cathedral Ave., N.W., Washington 16, D.C. (1910) B. 1883; A.B., 1905, A.M., 1907, Ph.D., 1909, Michigan. Fields 7, 8b, 1a. Doc. dis. Labor legislation of Michigan. Pub. "A revaluation of traditional economic theory," A.E.R., 1921; "Work of Board of Governors," 1941, "Selective instruments of national credit policy," 1948, Bd. of Gov. of Fed. Res. System. Res. Selectivity in national credit policy. Dir. W.W. in Amer.
- PARSON**, Daniel, 241 W. 97th St., New York 25, N.Y. (1948) Amer. Gas Asso., statis. bus.; b. 1921; B.B.A., 1942, City of New York. Fields 13a, 3bc, 14a.
- PARSONS**, Charles Graham, 735 N. Dinwiddie St., Arlington, Va. (1947) Census Bur., sr. statis., govt. serv.; b. 1906; B.S. in E.E., 1930, M.S., 1932, Iowa State Col. Fields 3a, 14a, 17b.
- *PARSONS**, Howard L., 3415 Rodman St., N.W., Washington 8, D.C. (1948) U.S. Dept. of Agric., Bur. of Agric. Econ., agric. econ. statis., res.; b. 1916; B.A., M.A., 1940, Wisconsin; 1940-42, Iowa State Col.; 1946-48, Harvard. Fields 15b, 3a, 1a. Pub. "Can prices allocate resources in American agriculture?" (with J. M. Brewster), Jour. of Farm Econ., Nov., 1946. Res. Impacts of changing national income on wages and employment in agriculture (doc. dis.).
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- PARTNER**, James Wendell, Cornell Univ., School of Bus. and Pub. Admin., Ithaca, N.Y. (1946) Cornell Univ., asst. prof., teach., res.; b. 1920; B.A., 1942, M.B.A., 1943, Univ. of Washington. Fields 11b, 3a, 17d.
- PASCHAL**, Elizabeth, 3012 N. Calvert St., Baltimore 18, Md. (1934) Fed. Sec. Agency, Soc. Sec. Admin., Modifications Unit, chief, Anal. Div., Bur. of Old Age and Survivors Ins., govt. serv.; b. 1902, B.A., 1924, M.A., 1927, Wellesley Col.; Ph.D., 1933, Wisconsin. Fields 17b, 16. Doc. dis. The worker's equity in his job (Amer. Federationist, 1934).
- PASCHKE**, John W., 329 Sunset Dr., Pullman, Wash. (1944)
- PASEL**, Lawrence, 1025 W. College Ave., Jacksonville, Ill. (1924)
- *PASSER**, Harold Clarence, H-24 Leverett House, Cambridge 38, Mass. (1948) Harvard Univ., teach. fellow, teach.; b. 1921; S.B., 1943, A.M., 1948, Harvard. Fields 2a, 12a, 16. Res. Relationship between technology and entrepreneurship in early days of electrical manufacturing industry.
- PASTER**, Irving, 2803 Pittsfield Blvd., Pittsfield Village, Ann Arbor, Mich. (1946) Kaiser-Frazier Corp., Labor Rel. Dept., staff asst., res.; b. 1909; A.B., 1931, M.A., 1933, Wayne; Ph.D., 1948, Michigan. Fields 16, 12, 17b. Doc. dis. National minimum wage regulation in U.S.
- PASVOLSKY**, Leo, 722 Jackson Pl., N.W., Washington 6, D.C. (1939)
- PATINKIN**, Don, Univ. of Chicago, Dept. of Econ., Chicago 37, Ill. (1946) Univ. of Chicago, asst. prof., res., teach.; b. 1922; A.B., 1943, A.M., 1945, Ph.D., 1947, Chicago. Fields 1c, 3b, 7. Doc. dis. On inconsistency of economic models: a theory of involuntary unemployment. Pub. "Multiple plant firms, cartels, and imperfect competition," Q.J.E., Feb., 1947; "Relative prices, Say's law, and demand for money," Econometrica, Apr., 1948; "Price flexibility and full employment," A.E.R., Sept., 1948. Res. Theory of employment.
- PATON**, William Andrew, 2203 Hill St., Ann Arbor, Mich. (1917) Univ. of Michigan, prof. of econ., Edwin Francis Gay Univ. Prof. of Accts., teach., res., edit.; b. 1889; A.B., 1915, M.A., 1916, Ph.D., 1917, Michigan; Litt.D. (Hon.), 1944, Lehigh. Fields 11c, 1a, 8ab. Doc. dis. Accounting theory—with special reference to corporate form of organization (Ronald Press, 1922). Pub. Essentials of accounting (1938), Advanced accounting (1941) (Macmillan); An introduction to corporate accounting standards (with A. C. Littleton) (Amer. Acctg. Asso., 1940). Dir. W.W. in Amer.
- PATTERSON**, Ernest Minor, Univ. of Pennsylvania, Philadelphia, Pa. (1912)
- PATTERSON**, John H., 161 E. 37th St., New York 16, N.Y. (1935)
- PATTERSON**, Robert Foster, Vermillion, S.D. (1946) Univ. of South Dakota, School of Bus., dean; b. 1905; A.B., 1927, Tarkio Col.; A.M., 1932, Nebraska; Ph.D., 1942, Univ. of Colorado. Fields 2, 9. Doc. dis. Gilbert M. Hitchcock: a study of two careers. Res. Beverage liquor taxation in South Dakota; tax climate for business in South Dakota.
- PATTERSON**, Robert Trescott, 1923 38th St., N.W., Washington 7, D.C. (1947) New York Univ., instr. in econ., teach.; b. 1909; A.B., 1931, Dickinson Col.; M.A., 1933, George Washington; summers, 1929, 1930, Harvard; 1933-44, Vanderbilt; 1945-48, New York. Fields 9, 8ab, 2a. Res. Federal debt-management policies: 1865-1914.
- PATTERSON**, (Samuel) Howard, Logan Hall, 36th and Woodland Ave., Philadelphia 43, Pa. (1921) Univ. of Pennsylvania, prof. of econ., teach., res., edit.; b. 1892; B.S., 1914, A.M., 1916,

- Ph.D., 1922, Pennsylvania. Fields 1b, 16, 2a. Doc. dis. Family desertion and non-support (Jour. of Delinquency, 1923). Pub. Readings in history of economic thought (1932). Social aspects of industry (1929, 1935, 1943). Economic problems of modern life (with K. R. Scholz) (1927, 1931, 1937, 1948) (McGraw-Hill). Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.
- PATTON, Audley Everett, 72 W. Adams St., Chicago 3, Ill. (1945) Pub. Serv. Co. of Northern Ill., vice-pres., secy., bus.; b. 1898; B.S., 1921, M.S., 1922, Ph.D., 1924, Illinois. Fields 13a, 1a, 11a. Doc. dis. Some economic aspects of municipal ownership of electric light and power utilities. Pub. "A study of utility financial structures," Jour. of Land and Pub. Util. Econ., 1926, 1927. Dir. W.W. in Midwest.
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- PATZIG, Rudolph E., R.F.D., 1, Alexandria, Va. (1944)
- PAUL, Allen B., Univ. of Illinois, 305 Mumford Hall, Urbana, Ill. (1942) Univ. of Illinois, asst. prof., res.; b. 1917; B.S., 1940, M.S., 1941, Ph.D., 1947, Illinois. Fields 14a, 15b, 1. Doc. dis. Economic factors in growth of oilseed industry in U.S. (Jour. of Farm Econ., Nov., 1947). Pub. "Changing character of shortening products," Nov., 1947, "Importance and location of different lines of food manufacture in Illinois," Feb., Mar., 1948, "Role of Illinois food manufacture," Feb., Mar., 1948, Ill. Farm Econ. Res. Nature and development of food manufacturing industries.
- PAUSTIAN, Paul William, 29 Audubon Pl., Tuscaloosa, Ala. (1947) Univ. of Alabama, School of Com. and Bus. Admin., prof. of econ., teach., res.; b. 1897; B.A., 1919, Central Wesleyan Col. (Mo.); B.D., 1923, Drew; A.M., 1923, Ph.D., 1930, Columbia. Fields 1a, 2b, 17d. Doc. dis. Canal irrigation in the Punjab (India) (Columbia Univ. Press, 1930). Pub. Problems of modern society (with J. J. Oppenheimer) (McGraw-Hill, 1938); Elementary sociology (with E. C. Pauatian) (Lucas Bros., 1937). Res. Consumer economics; economic organization of India.
- PAWLEY, Francis Raymond, 3468 Gunston Rd., Alexandria, Va. (1943)
- PAWLEY, Walter L., 2515 K St., N.W., No. 811, Washington, D.C. (1948)
- SPAYNE, Wilson F., Nat. Bur. of Econ. Res., W. 254th St. and Independence Ave., New York 63, N.Y. (1947)
- PAZOS, Felipe, 1818 H St., N.W., Washington 6, D.C. (1946) Int. Monetary Fund, econ., res.; b. 1912; Dr. in Ec. and Soc. Sci., 1937, Dr. in Law, 1938, Havana Univ.; 1938-39, Columbia. Fields 7, 10, 4. Doc. dis. The business cycle. Pub. Cuba's monetary problem (Colegio de Abogados de la Habana, 1940); "Cuba's banking system," 1941, "Cuban economy in 19th century," 1941, Revista Bimestre Cubana, Habana. Res. Monetary and exchange problems in Latin America; economic development and monetary stability.
- PEACH, William Nelson, Syracuse Univ., Dept. of Econ., Syracuse 10, N.Y. (1942) Syracuse Univ., asso. prof., teach., res.; b. A., 1935, Loyola Col.; Ph.D., 1939, Johns Hopkins. Fields 7, 3a, 5. Doc. dis. Security affiliates of national banks (Johns Hopkins Univ. Press, 1941). Pub. Basic data of American economy (with W. Krause) (Irwin, 1948); "Excess earnings of Federal Reserve Banks," Banking Law Jour., Jan., 1947.
- PEARCE, Charles A., 924 Madison Ave., New York 21, N.Y. (1933) N.Y. State Dept. of Labor, Div. of Res. and Statis., dir.; b. 1906; A.B., 1928, Hiram Col.; M.A., 1930, Kentucky; Ph.D., 1937, Wisconsin. Fields 16, 12a, 17c. Doc. dis. NRA trade practice programs (Columbia Univ. Press, 1939). Pub. Trade association survey (TNEC Memo., 1940).
- *PEARCE, John Joseph, Jr., Rutgers Univ., Econ. Dept., New Brunswick, N.J. (1948)
- PEARSON, David Casanave, 2610 Las Lunas St., Pasadena 8, Calif. (1941) George R. Miller & Co., vice-pres., anal., bus., res.; b. 1911; B.A., 1936, California at Los Angeles; 1939-41, Southern California. Fields 8b, 6, 1a. Res. Economic aspects of edible oils industry.
- PEARSON, Norman M., 5412 Worthington Dr., Washington 16, D.C. (1944)
- PEARSON, O. P., Auto. Mfrs. Asso., New Center Bldg., Detroit, Mich. (1940)
- PEASLEY, Peter Crane, 220 W. Hudson Ave., Englewood, N.J. (1947)
- PECHMAN, Joseph A., Treas. Dept., Div. of Tax Res., Washington 25, D.C. (1942) Treas. Dept., Div. of Tax. Res., econ. anal., res.; b. 1918; B.S., 1937, City of New York; M.A., 1938, Ph.D., 1942, Wisconsin. Fields 9, 5, 3c. Doc. dis. Relation between distributions of income by size and by type of receipt. Pub. Analysis of Wisconsin income (with F. A. Hanna and S. M. Lerner), in Studies in income and wealth (Nat. Bur. of Econ. Res., 1948). Res. Distribution of income after direct taxes.
- PECK, Gustav, 2319 Nebraska Ave., N.W., Washington 16, D.C. (1932)
- PECK, Harvey Whitefield, 408 W. 33rd St., Austin, Tex. (1922)
- PECK, Millard, 3540 Valley Dr., Alexandria, Va. (1948)
- PEEL, Fred W., 2311 N. 9th St., Apt. 303, Arlington, Va. (1947)
- PEGUM, Dudley Frank, Univ. of California at Los Angeles, Los Angeles 24, Calif. (1928) Univ. of California at Los Angeles, prof. of econ., teach., res.; b. 1898; A.B., 1922, M.A., 1924, Univ. of Alberta; Ph.D., 1927, California. Fields 13, 12, 4ab. Doc. dis. California Railroad Commission. Pub. Rate theories and the California Railroad Commission (1932), Regulation of public utility securities in California (1937) (Univ. of California Press); Regulation of industry (Irwin, 1948). Res. National transportation policy; federal regulation of natural gas. Dir. W.W. in Amer., in Amer. Educa., Dir. of Schol.
- PEISCH, Archibald Marcus, Norwich, Vt. (1919)
- PELZ, Edward Joseph, 114 Morningside Dr., New York 27, N.Y. (1938) New York Times, personnel dir., bus.; b. 1918; B.A., 1938, Colorado Col. Fields 11a, 16, 17bc.
- PENDELL, Elmer, 210 E. Center St., Berea, Ohio. (1946) Baldwin-Wallace Col., asst. prof. of econ., teach.; b. 1894; B.S., 1921, Oregon; M.A., 1923, Chicago; Ph.D., 1929, Cornell Univ. Fields 17a, 15a. Doc. dis. Demands and supplies in wage determination. Pub. Society under analysis, an introduction to sociology (editor and co-author) (Jaques Cattell Press, 1942); Human breeding and survival (co-author) (Penguin Books, Inc., 1947). Res. Too many fathers. Dir. W.W. in East.
- *PENDLETON, William Clyde, Int. House, 1414 E. 59th St., Chicago 37, Ill. (1948) Univ. of Chicago, student, res.; b. 1923; A.B., 1943, Brown. Fields 1a, 15b, 7.
- PEPPARD, Joseph F., 1110 E. 38th St., Brooklyn, N.Y. (1945)
- PERADOTTO, Louis B., 309 10th Ave., San Francisco 18, Calif. (1945)
- PERAGALLO, Edward, Col. of Holy Cross, Worcester 3, Mass. (1945)
- PERCEFULL, Sabin Cabbage, Northwestern State Col., Alva, Okla. (1921) Northwestern State Col., pres.; b. 1889; A.B., 1912, Baylor; M.A., 1913, Brown; 1938-39, Iowa; 1939, Texas. Fields 1a, 6, 9. Pub. Social, political, and religious affiliations of the Bravos in Rhode Island; "History of effects of national legislation on development of types of monopolies in U.S.;" "Doctrine of Natural Order as applied to monetary theories of Boisguillibert and Ricardo. Res. History of socialism in state of Rhode Island (doc. dis.). Dir. W.W. in Amer., Lead. in Educa.
- PERCUS, Philip M., 565 5th Ave., New York, N.Y. (1942)

PERDOMO, Nicasio, Apartado Postal 1530 Bogotá, Colombia, S. Amer. (1947)

*PERKINE, Eleanor Ross (Mrs. Fred A.), 1435 Edison Ave., Detroit 6, Mich. (1945) Teach.; b. 1876; 1907, Pratt Inst.

PERKINE, Fred Agens, 1435 Edison Ave., Detroit 6, Mich. (1943) F. A. Perine Paper Co., owner, bus.; b. 1878; S.B., 1898, Albion Col.; A.B., 1904, Harvard; 1942-44, Michigan. Fields 2, 1, 11.

*PERKEY, John B., Jr., 979 N. Willey St., Morgantown, W.Va. (1947) West Virginia Univ., student, Bur. of Bus. Res., res. asst., res.; b. 1921; A.B., 1947, West Virginia. Fields 10, 12b, 1. Res. Inter-American control of coffee (master's thesis).

PERKINS, John Shephard, Box 533, Boston 2, Mass. (1942) William Filene's Sons Co., controller, secy., asst. trans., bus.; b. 1911; A.B., 1932, Mt. Union Col.; M.B.A., 1934, Boston. Fields 11ac, 8, 7. Pub. New England community statistical abstracts (1938, 1940, 1942), Sales development program (1938) (Boston Univ., Bur. of Bus. Res.); "Management research," Harvard Bus. Rev., 1940. Dir. W.W. in Amer., Lead. in Educa.

PERLMAN, Irving, 1854 68th St., Brooklyn 4, N.Y. (1947)

PERLMAN, Mark, 1805 Rowley Ave., Madison 5, Wis. (1947) Princeton Univ., instr., teach., res.; b. 1923; B.A., M.A., 1947, Wisconsin. Fields 16, 2, 3a.

*PERLMAN, Richard W., 616 E. Lincoln Ave., Mt. Vernon, N.Y. (1948)

PERLMAN, Selig, 1805 Rowley Ave., Madison 5, Wis. (1915) Univ. of Wisconsin, prof. of econ., teach., res.; B.A., 1910, Ph.D., 1915, Wisconsin. Fields 16, 4a. Doc. dis. History of labor in U.S. 1876-96 (Macmillan, 1918). Pub. History of trade unionism in U.S. (1922), A theory of the labor movement (1928), History of labor in U.S., 1896-1932 (1935) (Macmillan). Res. American labor history, 1933 to date; theory of labor movements. Dir. W.W. in Amer., Dir. of Schol.

PERLOFF, Harvey S., Univ. of Chicago, Soc. Sci. Bldg. 205, Chicago 37, Ill. (1947)

PERRETEN, Paul H., Amer. Enterprise Asso., 4 E. 41st St., New York 17, N.Y. (1946)

PERRING, Katherine, Bay State Apts. 211, 1701 Massachusetts Ave., N.W., Washington 6, D.C. (1942)

PERROUX, Francois, 173 Boulevard Saint Germain, Institut de Science Economique Appliquée, Paris VI, France. (1947) Institut de Science Economique Appliquée, directeur; Faculté de Droit de Paris, prof.; Institut d'Etudes Politiques, Paris, prof.; res., teach.; b. 1903; Licences lettres et droit, 1923, 1924, Faculté de Droit de Lyon; Dipl. Etudes Sup., 1924, Doctorat droit, 1926, Faculté des Lettres de Lyon. Fields 1a, 5, 10. Doc. dis. Le problème du Profit (Editions Giard, Paris, 1926). Pub. La Valeur (Presses Universitaires de France, 1943); Le Revenu National (Presses Universitaires de France, Pragma, 1947); Le Plan Marshall ou l'Europe Nécessaire au Monde (Médicis, 1948). Res. Le Fédéralisme et l'organisation internationale; la macroéconomie et la comptabilité nationale.

PERRY, Gordon Neil, Dept. of Fin., Parliament Bldgs., Ottawa, Ont., Canada. (1940) Govt. of Canada, Dept. of Fin., Int. Econ. Rela. Div., econ., govt. serv.; b. 1909; B.A., 1933, Univ. of British Columbia; M.P.A., 1943, Harvard. Fields 10, 6, 9. Res. Intergovernmental fiscal relations in Canada.

PERRY, (Mrs.) Jane Greverus, 2637 Woodley Pl., N.W., Washington 8, D.C. (1946)

PERRY, Louis Barnes, Pomona Col., Sumner Hall, Claremont, Calif. (1947) Pomona Col., instr. in econ., dir. of vocational guidance and placement, dir. of men's residences; teach., res.; b. 1918; B.A., 1938, M.A., 1940, California at Los Angeles. Fields 16, 2, 4b. Pub. "Whither Christian brotherhood," Pacific Frontier and the Philippines, Sept., 1947. Res. Organized labor in Los Angeles, 1933-39 (doc. dis., Univ., of California at Los Angeles).

PERRY, Robert Hazlett, Everett Harris & Co.,

629 S. Spring St., Los Angeles 14, Calif. (1941)

PERSON, Harlow Stafford, 94 Southlawn Ave., Dobbs Ferry, N.Y. (1901) Consult. in bus. econ. and mgt., bus.; b. 1875; Ph.B., 1899, A.M., 1900, Ph.D., 1902, Michigan. Fields 11a, 12b, 4b. Doc. dis. Physical basis of economy of state of Michigan. Pub. Little waters (1935, rev. 1936), Mexican oil (1942) (Govt. Prtg. Office); Scientific management in American industry (editor and co-author) (Harper, 1939). Dir. W.W. in Amer., in Engineering, in East.

PERSON, Walter Avalon, 125 N. Covell, Sioux Falls, S.D. (1947) Augustana Col., asst. prof., dept. head, teach.; b. 1912; 1928-30, Augustana Col.; B.S., 1938, M.A., 1939, South Dakota. Fields 11, 15, 17.

PERSONS, Charles Edward, 4519 N. Carlin Spring Rd., Arlington, Va. (1910) NLRD, trial examiner, govt. serv.; A.B., 1903, Cornell Col.; A.M., 1905, Ph.D., 1913, Harvard. Fields 16, 1ab, 2. Doc. dis. History of ten-hour law in Massachusetts. Res. Facts of inequality and theory of distribution.

*PERSONS, Robert H., Jr., Columbia Univ., 1445 John Jay Hall, New York 27, N.Y. (1946)

PESCUMA, Miguel, Calle El Maestro 64-66, Buenos Aires, Argentina, S. Amer. (1944) Self-employed, bus., teach., res.; Tech.-Licensed, 1909, Tech. School of Naples (Italy); Mercantil Expert, 1916, Nat. Sup. Com. Schools (Buenos Aires); Pub. Nat. Accountant, 1920, Nat. Univ. of Buenos Aires. Fields 11ac, 7, 10. Pub. John Law—estudio de sus tiempos, del Sistema Monetario y Bancario que lleva su nombre (Nat. Univ. of Buenos Aires, 1936).

PETERS, (Mrs.) Iva Lowther, Fishkill, N.Y. (1922) Syracuse Univ., prof. emeritus; b. 1876; A.B., 1901, Syracuse; 1902, Heidelberg; A.M., 1916, Columbia; Ph.D., 1918, Clark; summers, 1923, Oxford, 1926, Zimmern School of Int. Studies (Geneva). Fields 16, 3a, 1a. Doc. dis. Taboo and genetics (Dodd, Mead & Co., 1920). Pub. Vocational orientation of women (Goucher Col. and Col. of William and Mary, 1925-26); Women workers through the depression (Amer. Woman's Club, 1934). Res. Clinical studies of older workers. Dir. W.W. in Amer., Lead. in Educa., Int. W.W.

PETERS, Janet Strattan (Mrs. Howard), 248 Wolf Rd., Des Plaines, Ill. (1945) B. 1918; 1936-38, Butler; B.S., 1941, Ohio State; 1945, George Washington. Fields 14, 15ae, 3.

PETERSON, Florence, Bryn Mawr Col., Bryn Mawr, Pa. (1934) Bryn Mawr Col., dept. head, prof., teach., res.; b. 1894; B.A., 1917, Ohio Wesleyan; M.A., 1930, Wisconsin. Fields 16, 17, 14a. Pub. Survey of labor economics (1947), American labor unions (1945) (Harper); Handbook of labor unions (Amer. Coun. of Pub. Affairs, 1944). Res. Case studies in personnel management. Dir. Who Knows—and What.

PETERSON, (Mrs.) Florence Bennett, 687 Lincoln Ave., Winnetka, Ill. (1928)

PETERSON, George Shorey, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1924) Univ. of Michigan, prof., teach., res.; A.B., 1920, Albion Col.; A.M., 1921, Ph.D., 1927, Michigan. Fields 12, 1a, 13b. Doc. dis. Economic aspects of highway development. Pub. "Motor-carrier regulation and its economic bases," Aug., 1929, "Highway policy on a commercial basis," May, 1932, Q.J.E.; "Railroads" (with I. L. Sharfman), Ency. of Soc. Sci., 1934.

PETERSON, James Marvin, Miami Univ., Oxford, Ohio. (1932) Miami Univ., Dept. of Econ., head, prof. of econ., teach., res.; b. 1902; B.A., 1923, St. Olaf Col.; M.A., 1926, Ph.D., 1931, Wisconsin. Fields 7, 1b. Doc. dis. Interrelationship of customers' market and open market for loanable funds (Univ. of Wisconsin, 1931). Pub. Money and banking (Macmillan, 1941, rev. 1948); "Interrelationships of member banks and open market for lendable funds," J.P.E., 1933. Res. Banking process today. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

*PETERSON, John M., 6406 S. Harper Ave., Chicago 37, Ill. (1947)

PETERSON, (Mrs.) Mary Shine, 304 Princeton Ave., Madison 5, Wis. (1920) Univ. of Wisconsin, instr., teach.; b. 1882; B.A., M.A., 1902, Cincinnati; Ph.D., 1922, Wisconsin. Fields 2a, 15a. Doc. dis. Ideas of founders of American nation on landed property. Pub. Outlines of land economics (with R. T. Ely and G. S. Wehrwein), Urban land economics (with R. T. Ely, et al.) (Edwards Bros., 1922); "Public leasehold system in U.S." Jour. of Land and Pub. Util. Econ., July, 1925. Res. Economic evolution.

PETERSON, Nicholas E., 96 Abbott Rd., Wellesley Hills, Mass. (1940)

PETERSON, Rudolph, 129 S. 13th St., Lewisburg, Pa. (1925)

PETERSON, Virginia Kivley, 1609 Spruce St., Berkeley 9, Calif. (1947) Univ. of Buffalo, instr., teach.; b. 1925; A.B., 1943, B.S., 1946, California; M.A., 1944, Minnesota; 1947-48, Buffalo. Fields 3ab, 1ac, 12a.

*PETRAS, George S., 24-35 28th St., Long Island City 2, N.Y. (1946) Univ. of Georgia, asst. prof. of econ., teach., res.; b. 1925; 1942-43, Brooklyn Col.; B.S., 1946, A.M., 1947, New York. Fields 10, 2, 4a. Res. Economics of Balkans and Near East; wage policy of United Mine Workers of America; national self-sufficiency and its foreign trade impact.

PETRIE, Richard P., Monmouth Col., Monmouth, Ill. (1947)

*PETRY, James Leland, 1448 Neil Ave., Columbus, Ohio. (1948)

PETSHEK, Kirk Russell, 10 College St., Hamilton, N.Y. (1946) Colgate Univ., asst. prof., teach., res.; b. 1913; J.D., 1936, Univ. of Vienna; M.A., 1940, Ph.D., 1947, Harvard; 1940-41, Northwestern; 1937, Geneva School of Int. Studies. Fields 16, 12, 10. Doc. dis. Role of employment in union decisions. Pub. "Enforcement of collective agreements," Central Juridical Jour. Res. Economics of trade unionism.

PETTEE, E. W., North Dakota Agric. Col., State Col. Sta., Fargo, N.D. (1944)

PETTEE, George Sawyer, House of Rep., Staff, Com. on For. Affairs, Washington, D.C. (1944) House of Rep., Staff, Com. on For. Affairs, govt. serv.; b. 1904; S.B., 1926, Ph.D., 1937, Harvard. Doc. dis. Process of revolution (Harper, 1938). Pub. Future of American secret intelligence (Infantry Jour. Press, 1946); "Failure of Marxism," Jour. of Soc. Philos., 1941.

PETTEE, James Charles, 4817 25th Rd., N., Arlington, Va. (1936)

*PETTINGILL, Robert Bunnell, Univ. of Southern California, Teach. Inst. of Econ., Los Angeles 7, Calif. (1934) Teach. Inst. of Econ., dir., teach., edit.; b. 1904; 1922-24, Rutgers; A.B., 1926, A.M., 1928, Arizona; Ph.D., 1934, Stanford. Fields 1a, 10, 12b. Doc. dis. U.S. foreign trade in copper, 1889-1932. Pub. Price economics (Ronald Press, 1948); "U.S. copper industry and the tariff," Q.J.E., Nov., 1931; "Division of tax burden among income groups in U.S. in 1936," A.E.R., Mar., 1940. Res. Economic potentials of peacetime uses of atomic energy.

PETTIBONE, Winton, 20 S. Adams Rd., Verovald, Wash. (1947) Univ. of Washington, asst. prof., teach., res.; b. 1918; 1935-37, Oberlin Col.; A.B., 1939, Univ. of Washington; A.M., 1940, Haverford Col.; 1940-42, 1948, California. Fields 10, 13b, 7.

PETTINGILL, Stuart Anderson, 1809 G St., N.W., Apt. 108, Washington, D.C. (1948) FCC, asso. radio engt., govt. serv.; b. 1918; A.B., 1939, 1940-41, Stanford; 1946-48, American. Fields 13a, 12, 11ab. Res. Structure of radio set industry (master's thesis).

*PFEFFER, Irving, 5429 Waverly St., Montreal, Que., Canada. (1948) McGill Univ., student, res.; b. 1924. Fields 14, 12, 4.

PFUNTER, Carl Herman, 2804 Terrace Rd., S.E., Apt. A-544, Washington 20, D.C. (1948) Dept. of State, Secretariat, Far Eastern Commission, govt. serv.; b. 1909. Fields 1, 2, 10.

PHALAN, J. Laurence, 34 South St., Middlebury, Vt. (1947) U.S. Office of Educa.; spec. for econ., govt. serv.; b. 1909; A.B., 1937, 1945-48, Boston Col.; A.M., 1940, Ed.D., 1944, Harvard. Fields 16, 11, 8.

PHARRIS, John William, 1830 S. Cheyenne, Tulsa 5, Okla. (1948) Stanolind Oil Purch. Co., Records and Statis. Sec., head, res., bus.; b. 1918; B.S., 1947, M.B.A., 1948, Oklahoma. Fields 6, 3b, 11c.

*PHEIFFER, Julius Eugene, Roosevelt Col., 430 S. Michigan Ave., Chicago 5, Ill. (1948) Roosevelt Col., instr., asst. to dean, teach.; b. 1920; 1944, Western Michigan Col. of Educa.; 1944-45, Princeton; B.S., 1947, M.S., 1948, Illinois. Fields 7, 8ab, 11c.

PHELAN, Townner, St. Louis Union Trust Co., 323 N. Broadway, St. Louis 2, Mo. (1946)

PHELPS, Clyde William, Univ. of Southern California, Dept. of Econ., Los Angeles 7, Calif. (1927) Univ. of Southern California, prof. of econ., teach., res.; b. 1897; A.B., 1922, Harvard; summer, 1923, Heidelberg Univ., 1924, Univ. of Vienna; Docteur en droit, 1924, Univ. of Toulouse (France). Fields 1ab, 7, 11b. Doc. dis. Banques Américaines en France (Daloz, Paris, 1924). Pub. Foreign expansion of American banks (Ronald Press, 1927); Retail credit fundamentals (McGraw-Hill, 1947); "Monopolistic and imperfect competition in consumer loans," Jour. of Mktg., Apr., 1944. Res. Economics of consumer credit. Dir. W.W. in Amer., in Com. and Ind., Who Knows—and What.

PHELPS, Dudley Maynard, Univ. of Michigan, School of Bus. Admin., Ann Arbor, Mich. (1939) Univ. of Michigan, prof. of mktg., teach., res.; b. 1925, Michigan; M.B.A., 1926, Ph.D., 1931, Minnesota. Fields 11b, 10. Doc. dis. Effect of foreign market on growth and stability of American automobile industry (Univ. of Michigan, Michigan Bus. Studies, 1931). Pub. Migration of industry to South America (McGraw-Hill, 1936); Planning the product (Irwin, 1947); Marketing research—its function, scope, and method (Univ. of Michigan, Michigan Bus. Studies, 1937). Res. Sales management; nationals and foreigners in direct investments abroad. Dir. W.W. in Amer.

*PHELPS, Esmond, 321 St. Charles St., New Orleans, La. (1911)

PHELPS, Orme Wheelock, Claremont Men's Col., Claremont, Calif. (1945) Claremont Men's Col. and Grad. School, prof., teach., res.; b. 1906; A.D., 1937, M.B.A., 1939, Ph.D., 1945, Chicago. Fields 16, 12b, 1a. Doc. dis. A case study in public personnel administration. Pub. "Public policy in labor disputes," J.P.E., June, 1947; "Organizations of employees, with special reference to library personnel," Lib. Quar., Jan., 1946; "Legislative background of Fair Labor Standards Act, Univ. of Chicago Press, 1939. Res. Impact of Keynesism on collective bargaining; aspects of public regulation of union-management relations. Dir. Lead. in Educa.

PHILBROOK, Clarence, Univ. of North Carolina, Dept. of Econ. and Com., Chapel Hill, N.C. (1946) Univ. of North Carolina, asso. prof., teach.; b. 1909; A.B., 1936, 1936-40, Chicago. Fields 1a, 6, 10. Pub. "Economic criteria of an unemployment relief program," in State-local fiscal relations in Illinois (Univ. of Chicago Press, 1941). Res. Policy implications of theoretical controversy over the effects of rigid wages (doc. dis.).

PHILLIPS, Chester Arthur, 721 N. Linn St., Iowa City, Ia. (1915)

PHILLIPS, E. Bryant, Univ. of Southern California, Univ. Pk., Los Angeles 7, Calif. (1947) Univ. of Southern California, asst. prof., teach., res.; b. 1905; A.B., 1927, Nebraska Wesleyan Univ.; M.A., 1931, Ph.D., 1944, Nebraska. Fields 2a, 13ab, 1b. Doc. dis. A history of street railways in Nebraska. Pub. "Horse car days and ways," Nebraska Hist., Apr., 1948. Res. Street railways in Los Angeles.

PHILLIPS, Edmund John, Jr., 781 Lakepointe, Grosse Pointe Park 30, Mich. (1939) Ross Roy, Inc., account exec., bus., edit., res.; b. 1907; B.S. in E.E., 1928, E.E., 1937, Pennsylvania;

- M.B.A., 1939, Northwestern. Fields 11ab, 13b, 1a. Pub. Railroad operation and railway signaling (Simmons-Boardman, 1942); "Diversion of freight traffic from railroads," Jour. of Land and Pub. Util. Econ., Nov., 1940.
- PHILLIPS, Harold M., Crocker First Nat. Bank, Franklin at 13th Sts., Oakland 4, Calif. (1944) Crocker First Nat. Bank., bus., res.; b. 1909. Fields 8ab, 7, 6.
- PHILLIPS, Joseph Dexter, Box 190, Wesleyan Sta., Middletown, Conn. (1946) Wesleyan Univ., asst. prof., teach., res.; b. 1914; A.B., 1937, 1937-40, California; 1940-41, Columbia. Fields 2a, 1b, 12a. Pub. "Foreign trade," in Economic survey of Pacific area (Inst. of Pacific Rela., 1943). Res. Small enterprise and public policy (doc. dis.).
- PHILLIPS, Merton Ogden, Washington and Lee Univ., Lexington, Va. (1927) Washington and Lee Univ., prof. of econ. and com., teach.; b. 1900; A.B., 1924, Miami Univ.; M.A., 1926, Ph.D., 1937, North Carolina. Fields 13b, 15d. Doc. dis. Tramp shipping: its changing position in world trade. Pub. North America (with J. R. Smith) (Harcourt, Brace, 1940); Industrial and commercial geography (with J. R. Smith) (Holt, 1946); "Manufacturing in Federal District, Mexico," Econ. Geog., 1933. Res. Rise and decline of tramp shipping. Dir. W.W. in Amer., in Com. and Ind., in East.
- PHILLIPS, Ralph E., ESS, GHQ, FEC, APO 500, c/o Postmaster, San Francisco, Calif. (1947)
- PHILLIPS, Stanley Albin, 490 Sheridan Rd., Evanston, Ill. (1937)
- PHILLIPS, William John, Jr., Southwestern Louisiana Inst., Lafayette, La. (1938)
- PHILLIPS, William T., 1018 Valley Dr., Alexandria, Va. (1941)
- PHINNEY, Josiah Thompson, New York State Col. for Teach., Albany 3, N.Y. (1931) New York State Col. for Teach., prof. of econ., dept. head, teach.; b. 1901; A.B., 1923, Yale; Ph.D., 1931, Harvard. Fields 7, 16, 9. Doc. dis. Gold production and price level. Pub. "Gold production and price level: Cassel three percent estimate," Q.J.E., Aug., 1933; "Growth of trade to 1913," J.P.E., Aug., 1934.
- PHIPPS, Irving Rogers, 255 Park Ave., Munsey Pk., Manhasset, L.I., N.Y. (1929)
- PICARD, Fred Quentin, Ohio Univ., Dept. of Econ., Athens, Ohio. (1947)
- PICKART, Delmore M., 1913 Regent St., Madison 5, Wis. (1947) Milton Col., instr., teach., bus.; B.S., 1930, Marquette; 1930-31, Northwestern; summer, 1930, Pennsylvania. Fields 7, 1a, 8ab. Res. Debt-paying ability of farmers.
- *PICKEN, Robert F., 836 E. 56th St., Chicago 37, Ill. (1948)
- PICKETT, Ralph Russell, Univ. of Kentucky, Col. of Com., Lexington 29, Ky. (1925) Univ. of Kentucky, prof. of econ., teach., res.; b. 1898; A.B., 1919, Missouri Wesleyan Col.; A.M., 1924, Ph.D., 1930, Chicago. Fields 8ab, 7, 11a. Doc. dis. Federal Reserve Bank policy in Iowa (Univ. of Chicago Press, 1931). Pub. "Size of failing Iowa banks," Jan., 1929, "Size of failed national banks," Jan., 1934, Jour. of Bus. of Univ. of Chicago. Res. Investment analysis and policy.
- PIERCE, Lloyd F., University of Richmond, Box 83, Va. (1947) Univ. of Richmond, asst. prof. of econ., teach.; b. 1918; B.A., 1939, Carson-Newman Col.; M.A., 1945, American; summer, 1947, 1948, Wisconsin. Fields 16, 9, 12. Pub. Small business in Virginia (1947); Appraisal of corporate tax plans (1945).
- PIERSON, Frank Cook, Swarthmore Col., Swarthmore, Pa. (1940) Swarthmore Col., asso. prof., teach., res.; b. 1911; B.A., 1934, Swarthmore Col.; M.A., 1938, Ph.D., 1942, Columbia. Fields 16, 6, 7. Doc. dis. Collective bargaining systems (Amer. Coun. on Pub. Affairs, 1942). Pub. "Determination of minimum wage rates," A.E.R., Mar., 1940; "Democracy in trade unions," Amer. Civil Liberties Union, 1943; "Full employment act of 1946," in American labor yearbook (Remsen Pub. Co., 1948). Res. Multiple employer bargaining. Dir. W.W. in Amer.
- PIERSON, John Herman Groesbeck, 3424 Q St., N.W., Washington, D.C. (1934)
- PIGOU, Arthur Cecil, King's Col., Cambridge, England. (1922)
- PINCHBECK, Raymond Bennett, University of Richmond 21, Va. (1923) Univ. of Richmond, Richmond Col., dean, prof. of applied econ., teach., govt. serv.; b. 1900; B.S., 1922, M.S., 1923, Ph.D., 1925, Virginia. Fields 4a, 11ac, 16. Doc. dis. Virginia Negro artisan and tradesman (William Byrd Press, 1926). Pub. Study of Richmond city government (Dudley Prtg. Co., 1934); Study of Virginia county government (State Govt. of Va., 1940); "Next steps in taxation in Virginia government," Commonwealth Mag. (Va. State Ch. of Com.), Jan., 1936. Res. History of state and local government in Virginia. Dir. W.W. in Amer., Lead, in Educa.
- PINCHESE, Harold E., 3639 E. Milwaukee, Detroit 11, Mich. (1946)
- PINCUS, Joseph, 911 S. Randolph St., Arlington, Va. (1948) U.S. Tariff Com., commodity spec., govt. serv., res.; b. 1919; B.S.S., 1941, City of New York; M.A., 1947, American. Fields 10, 4a, 14a. Pub. Mining and manufacturing industries in Cuba (U.S. Tariff Com., 1947); "International organizations: what is their effective power," City Col. Alumnus, Mar., 1948; Railways of Denmark (U.S. Dept. of Com., Nov., 1944). Res. International Trade Organization.
- PINKSTAFF, Virgil, Shurtleff, Col., Alton, Ill. (1948)
- PINTO, Peter J. J., Int. Monetary Fund, Res. Dept., 1818 H St., N.W., Washington 6, D.C. (1948) Int. Monetary Fund, econ.; b. 1915; Univ. of Bombay: A.B., 1934, M.A., 1938, St. Xavier's Col., B.Com., 1937, Sydenham Col. of Com. and Econ., Ph.D., 1941, Univ. School of Econ. and Soc. Fields 9, 10, 1a. Doc. dis. System of financial administration in India (New Book Co., Bombay, 1943).
- PINTOS, Jerome, 144-23 (F) Grand Central Pkwy., Jamaica, N.Y. (1947)
- PIOVIA, Frank E., 200 N. Trenton St., Arlington, Va. (1945) War Assets Admin., spec. asst., govt. serv.; b. 1915; B.A., 1941, City of New York. Fields 14ab, 11ab, 3ac. Pub. Construction, small business and employment (Senate Small Bus. Com., 1945); Reconversion in building product manufacture (Producers' Coun., Inc., 1945).
- PIQUET, Howard Samuel, 2209 Yorktown Rd., N.W., Washington 12, D.C. (1927) House of Rep., For. Affairs Com., staff mem., govt. serv.; b. 1903; B.S., 1924, New York; M.A., 1926, California; Ph.D., 1930, Princeton. Fields 10, 1ab, 14a. Doc. dis. Building and loan associations in New Jersey (Princeton Univ. Press, 1929). Pub. Outline of New Deal legislation (McGraw-Hill, 1933, 1934); "Functional international organization," Annals of Amer. Acad. of Polit. and Soc. Sci., July, 1945; "Since Hot Springs," Jour. of Home Econ., Feb., 1945. Dir. W.W. in Amer.
- PITIGLIANI, Fausto R., 97 Ft. Washington Ave., New York, N.Y. (1938)
- PITKIN, William Asbury, Southern Illinois Univ., Carbondale, Ill. (1946) Southern Illinois Univ., Dept. of Econ. and Hist., asso. prof. of soc. sci., teach., res.; b. 1898; B.A., 1922, DePauw; M.A., 1927, Univ. of Colorado; Ph.D., 1940, Texas. Fields 2, 12, 4. Doc. dis. Republican insurgency during Taft administration. Res. Sherman Law policy and enforcement, 1901-13. Dir. Who Knows—and What.
- PITT, Courtney Hamilton, Philco Corp., Tioga and C Sts., Philadelphia, Pa. (1936)
- PITTS, Alexander, Jr., 660 Ocean Ave., Jersey City 5, N.J. (1948)
- PIXLEY, Rex A., Goldvein, Va. (1948)
- PLANTING, Martin P., 4632 Hillside Rd., S.E., Apt. 3, Washington 19, D.C. (1945) U.S. Dept. of Agric., Farm Credit Admin., econ., govt. serv., res.; b. 1910; B.S., 1931, M.S., 1933, Massachusetts; 1934-35, Iowa State Col. Fields 15b, 1, 7. Res. Long-range agricultural planning.
- PLATT, Stanley Krysher, 2002 W. Lake of Isles Blvd., Minneapolis, Minn. (1947)

PLAUT, Walter, 705 Madison Ave., New York 21, N.Y. (1944)

PLESHER, Michael A., 430 Jackson St., Monongahela, Pa. (1947) Univ. of Pittsburgh, instr., teach., res.; b. 1925; A.B., 1946, M.A., 1948, Pittsburgh. Fields 4a, 1a, 2a. Res. Comparison of Socialist Labor Party of U.S. with Socialist Party of U.S.

PLIMSOLL, James, Australian Embassy, Washington 8, D.C. (1945)

PLOTNIK, Mortin Joseph, Blackburn Col., Carlisle, Ill. (1946) Blackburn Col., prof. of econ., dept. head, teach., res.; b. 1903; Baccalaureate, 1922, Vilno; M.Agr., 1926, Col. of Agric., Berlin; Ph.D., 1937, Columbia. Fields 1a, 7, 15ab. Doc. dis. Werner Sombart and his type of economics (Eco Press, 1937). Pub. "Philosophical reflections," Solidarity, Dec., 1941; Course of study in agriculture (F.F.A., West Leyden, N.Y., 1945).

*PLOUS, Harold James, 1042 Erin St., Madison, Wis. (1948) Univ. of Wisconsin, grad. asst., teach., res.; b. 1921; B.A., 1946, M.A., 1948, Wisconsin. Fields 7, 16, 1a. Pub. "Labor unity in Kenosha, Wisconsin," Kenosha Labor, June, 1946. Res. Entrepreneurial decisions affecting investment policy.

PLOWMAN, E(dward) Grosvenor, Schenley Apts., Pittsburgh 13, Pa. (1922) U.S. Steel Corp. of Del., vice-pres. (traffic), bus.; b. 1899; B.S., 1921, Dartmouth; 1921-23, Boston Univ.; 1921-23, Harvard; M.S., 1935, Denver; Ph.D., 1936, Chicago. Fields 11a, 13b, 3c. Doc. dis. Management of municipal water utilities (Univ. of Chicago, Jour. of Bus., 1936). Pub. Business organization and management (joint author) (Irwin, 1948); "Observations on nationalization of British transportation" (joint author), I.C.C. Practitioners Jour., May, 1948. Dir. W.W. in Amer.

PLUM, Lester V., 24 Murray Pl., Princeton, N.J. (1940)

PLUMLEY, Alden Joseph, Univ. of Nevada, Dept. of Econ., Reno, Nev. (1928)

PLUMMER, Wilbur Clayton, Univ. of Pennsylvania, Bennett Hall, Philadelphia 4, Pa. (1925) Univ. of Pennsylvania, prof. of econ., teach.; b. 1889; A.B., 1910, LL.D., 1939, Lebanon Valley Col.; A.M., 1922, Ph.D., 1924, Pennsylvania. Fields 1a, 2a, 7. Doc. dis. Road policy of Pennsylvania (privately printed, 1925). Pub. "Social and economic consequences of buying on instalment plan," Annals of Amer. Acad. of Polit. and Soc. Sci., Jan., 1927; Sales finance companies and their credit practices (with R. A. Young) (Nat. Bur. of Econ. Res., 1940); Finances of City of Philadelphia (Inst. of Local and State Govt., Univ. of Pennsylvania, 1943). Res. History of consumer credit in U.S. Dir. W.W. in Amer., Dir. of Schol.

POGUE, Joseph Ezekiel, 18 Pine St., New York 5, N.Y. (1924) Chase Nat. Bank, vice-pres., bus., res.; b. 1887; A.B., 1906, M.S., 1907, North Carolina; Ph.D., 1909, Yale; 1911, Univ. of Heidelberg. Fields 15c, 3, 8. Pub. Prices of petroleum and its products (with I. Lubin) (Govt. Prtg. Office, 1919); Economics of petroleum (Wiley, 1921); Economics of petroleum industry (Chase Nat. Bank, 1939). Res. Financial and economic studies of petroleum industry. Dir. W.W. in Amer.

POINDEXTER, J. Carl, Mt. Regis Hill, Salem, Va. (1939) B. 1911; B.S., 1933, M.A., 1938, Ph.D., 1944, Virginia. Fields 1a, 9, 7. Doc. dis. Critical analysis of proposals for interest-free deficit financing. Pub. "Fallacies of interest-free deficit financing," Q.J.E., May, 1944; "Some misconceptions of money and banking theory," Southern Econ. Jour., July, 1946; "Critique of functional finance through quasi-free bank credit," A.E.K., June, 1946. Res. Municipal taxation of nonresidents.

POLAK, Jacques Jacobus, 3427 Quebec St., N.W., Washington 16, D.C. (1946) Int. Monetary Fund, Res. Dept., Statis. Div., chief, res.; b. 1914; Ph.D., 1937, Amsterdam Univ. Fields 10, 6, 3b. Doc. dis. Public works as a form of business cycle policy (Martinus Nijhoff, The Hague, 1937). Pub. "Balance of payments problems of countries recon-

structing with help of foreign loans," Q.J.E., Feb., 1943; "European exchange depreciation in early twenties," Econometrica, Apr., 1943; "Exchange depreciation and international monetary stability," Rev. of Econ. Statis., Aug., 1947. Dir. W.W. in East.

*POLEK, Paula J., 4001 Cresson St., Philadelphia 27, Pa. (1948)

POLEMIS, Zane Michael, 5649 Dorchester Ave., Chicago 37, Ill. (1944) Ill. Pub. Aid Com., Dept. of Res. and Statis., dir.; Roosevelt Col., lecturer in econ.; govt. serv., res., teach.; b. 1905; A.B., 1939, Central Y.M.C.A. Col. Fields 3ac, 17bc, 1a. Res. Economic and social characteristics of public assistance recipients in Illinois.

POLINSKY, Ella Joan, 1515 16th St., N.W., Washington 6, D.C. (1943)

POLITTE, Ralph Zeno, 4 Westmoreland Rd., Tauxemont, Alexandria, Va. (1946) War Dept., econ. res. anal., govt. serv., res.; b. 1918; A.B., 1940, M.A., 1948, Univ. of Colorado. Fields 14a, 2b, 15c.

POLLAK, Otto, Thornbrook Manor, Bryn Mawr, Pa. (1944) Univ. of Pennsylvania, asst. prof. of soc., teach., res.; b. 1908; J.D., 1930, Univ. of Vienna; Ph.D., 1947, Pennsylvania. Fields 17ab, 16. Doc. dis. Criminality of women. Res. Social implications of industry-wide collective bargaining.

POLLARD, George M., 2013 S. Lynn St., Arlington, Va. (1938)

POLLIS, Adamantia, 3205 Guilford Ave., Baltimore 18, Md. (1946)

POLLOCK, Dora, 3418 Elaine Pl., Chicago 13, Ill. (1945) Amer. Civil Liberties Union, Chicago Div., orgn. secy.; attended Northwestern, Chicago, Lewis Inst. Fields 4, 11, 16.

POLLOCK, Frederick, 21 Lattimer Rd., Uplifters' Ranch, Santa Monica, Calif. (1934) Inst. of Soc. Res. asso. dir., res., bus.; b. 1894; Dr. Rer. Pol., 1923, Univ. of Frankfurt a/M. Fields 4b, 16, 1.

POLLOCK, Kenneth William, c/o Key Work Clothes, Inc., Ft. Scott, Kan. (1933)

POLLOCK, (Mrs.) Minna I., 1343 55th St., Brooklyn 19, N.Y. (1945) Jewish Educa. Com. of N.Y.; b. 1924; B.A., 1944, Brooklyn Col.; 1944-46, Columbia. Fields 16, 2a, 12.

*POLNER, Walter, 756 Howard Ave., Brooklyn 12, N.Y. (1948) Univ. of California at Los Angeles, fellow, res.; b. 1927; B.A., 1947, M.A., 1948, Wisconsin. Fields 16, 17b, 4.

POLYZOIDES, Adamantios Th., 620 S. Ardmore Ave., Los Angeles 5, Calif. (1940)

POMERANTZ, Sidney I., 35 Crown St., Brooklyn 25, N.Y. (1943) City Col. of New York, teach.; b. 1909; B.S. in S.S., 1930, City of New York; M.A., 1932, Ph.D., 1938, Columbia. Fields 2a, 11b, 12b. Doc. dis. New York: an American city, 1783-1803, a study of urban life (Columbia Univ., Press, 1938). Pub. "The patriot newspaper and the American Revolution," in Era of American Revolution (Columbia Univ. Press, 1939). Res. The patriot press in the War for Independence.

POND, Addison Cramton, Nat. Life Ins. Co., Montpelier, Vt. (1939) Nat. Life Ins. Co., inspec. of loans and invest. anal., bus.; b. 1912; B.S., 1934, M.A., 1936, Vermont; summers, 1939, Wisconsin, 1941, California at Los Angeles. Fields 16, 2a, 11bc. Pub. Fair labor standards act (Burlington Free Press, 1940).

POND, A(lonzo) Smith, 415 W. 7th N., Provo, Utah. (1938) Brigham Young Univ., prof. of econ., teach., res.; b. 1905; A.B., 1926, Utah; Ph.D., 1942, Northwestern. Fields 9, 1ab, 15b. Doc. dis. Urban special assessments in downstate Illinois, 1925-37 (Ill. Tax Com. 1940).

POOLE, Elmer William, 866 West End Ave., New York 25, N.Y. (1946)

POOLE, Kenyon Edwards, Northwestern Univ., Dept. of Econ., Evanston, Ill. (1937) Northwestern Univ., prof. of pub. fin.; b. 1909; A.B., 1929, Ph.D., 1938, Harvard; 1931-32, Univ. of Munich; A.M., 1934, Fletcher School of Law and Diplomacy. Fields 9, 10, 7. Doc. dis. German financial policies, 1932-39 (Harvard Econ. Series 66, 1939). Pub. "Tax

remission as a means of influencing cyclical fluctuations," Q.J.E., Feb., 1939; "Problem of simplicity in enactment of tax legislation," J.P.E., Dec., 1941; "The spendings tax: problems of administration and equity," A.E.R., Mar., 1934. Res. Role of U.S. in problems in economic recovery of Europe.

POOLE, William Harold, Queen's Univ., School of Com., Kingston, Ont., Canada. (1946) Queen's Univ., prof. of com., teach., res.; b. 1903; B.A., 1933, M.A., 1934, Univ. of Alberta; 1935-38, Chicago. Fields 11b, 10, 7. Pub. "Economics of petroleum industry in Province of Alberta," Canadian Jour. of Econ. and Polit. Sci., Feb., 1942. Res. Government regulation of marketing in Canada.

PORTER, Arthur R., Jr., 3409 Huey Ave., Drexel Hill, Pa. (1941)

PORTER, Richard Lister, 221 N. Grand Ave., St. Louis 3, Mo. (1945) St. Louis Univ., grad. asst., res., teach.; b. 1916; A.B., 1939, Ph.D., 1941, M.A., 1942, S.T.L., 1948, St. Louis. Fields 2a, 1b, 4a. Res. Social metaphysics of English classical economists.

POSADA F., Antonio José, Apartado Postal 1489, Bogotá, Colombia, S. Amer. (1947) Federación Nacional de Cafeteros de Colombia, Sec. of Econ. and Statis., chief; Universidad Nacional de Colombia, prof. of econ.; res., teach.; b. 1920; Agr. Eng., 1943, Universidad Nacional de Colombia; M.S., 1947, Wisconsin. Fields 15b, 4ab, 3a. Res. Economics of coffee production in Colombia; coffee census.

POSNIAK, Edward George, 5404 39th St., N.W., Washington 15, D.C. (1945) Dept. of State, Div. of Invest. and Econ. Development, int. econ., govt. serv.; b. 1911; LL.B., 1933, Univ. of Berlin; M.A., 1935, Sorbonne and Ecole des Sciences Politiques. Fields 10, 15de. Pub. Parole, Attorney General's survey of release procedures (Dept. of Justice, 1939).

POST, August Alan, R. 9, Box 1962, Sacramento, Calif. (1945) State of Calif., Joint Legis. Budget Com., chief econ. and admin. anal., govt. serv., res., edit.; b. 1914; A.B., 1938, Occidental Col.; 1938-40, Princeton. Fields 10, 9, 7.

POTTER, A. Neal, Washington State Col., Dept. of Econ., Pullman, Wash. (1941) Washington State Col., asst. prof., teach.; b. 1915; 1933-35, Johns Hopkins; B.A. 1937, M.A., 1940, Minnesota; 1940, 1947, Chicago. Fields 1a, 5, 9.

POTTER, Aiden Archibald, Box 181, R.F.D. 3, Bethesda 14, Md. (1942) Retired; b. 1884; B.S., 1909, Minnesota; 1935-39, American; 1910-11, George Washington. Fields 1a, 4a, 15b. Pub. "A theory of interest," Com. and Fin. Chron., Dec., 1944; "Note on mathematics vs. genetics in society," Science, July, 1947; "Criticising TNEC program," N.Y. Times, Jan., 1939. Res. Philosophy of mathematics and value.

POTTER, E. L., 231 S. 9th St., Corvallis, Ore. (1941)

POTTER, Helen Catherine, Seton Hill Col., Greensburg, Pa. (1945) Seton Hill Col., Dept. of Econ., chmn., asso. prof., teach.; b. 1911; A.B., 1933, Vassar; Ph.D., 1942, Johns Hopkins; 1933, Purdue. Fields 17d, 10, 4c. Doc. dis. Federal protection for consumer. Pub. The Marshall Plan (Catholic Asso. for Int. Peace, 1947); "How to tell a communist," Marianist, Jan., 1948; "College women students help win the War," Bul. of Amer. Asso. of Univ. Prof., Winter, 1944. Res. American consumer, an economic analysis. Dir. Catholic W.W.

POULTON, Edgar Earl, 34 Farragut Pl., N.W., Washington 11, D.C. (1942) Fed. Deposit Ins. Corp., econ., res.; b. 1914; A.B., 1937, Marietta Col.; M.A., 1938, Cincinnati; 1938-40, Ohio State. Fields 16, 7, 10. Pub. "Rise of industry in South," in Labor in South (B.L.S. Bul. 898, 1947); "Development of 'backward' areas," Fall, 1944, "What price federal debt?" Fall, 1947, Antioch Rev.

POWELL, Ashby Read, Div. of Resources and Development, State Office Bldg., Jefferson City, Mo. (1946) Missouri State Div. of Resources and Development, Res. Sec., head, res.; b. 1908; 1927, 1928, Virginia Mil. Inst.; B.C.S., 1933, New York.

Fields 14ac, 11b, 17ad. Res. Marketing areas in Missouri; community industrial and marketing surveys; types of manufacturing which should be profitably located in Missouri; marketing factors within 500-miles of center of Missouri.

POWELL, Franklin Edward, 6516 Ridge Dr., Brookmont, Washington 16, D.C. (1944) Nat. Bur. of Standards, Commodity Standards Div., project mgr. (metal products), govt. serv., res.; b. 1899; E.E., 1922, Syracuse; M.A., 1937, Catholic. Fields 12a, 1c, 10. Pub. Standardization and economic theory (Cath. Univ. of Amer., 1947). Res. Statistical study of standardization in a representative industry.

POWELL, M. A., 231 S. La Salle St., Chicago, Ill. (1948) Continental Ill. Nat. Bank and Trust Co., second vice-pres., bus.; b. 1903; A.B., 1924, DePaul. Field 10.

POWELL, Weldon, 67 Broad St., New York 4, N.Y. (1924) Haskins & Sells, partner, bus.; b. 1903; B.S., 1922, M.S., 1923, Illinois. Field 11c. Pub. Capital stock without par value (with J. R. Wildman) (McGraw-Hill, 1928).

POWERS, Richard, Box 42, Clemson, S.C. (1946) Clemson Agric. Col., asst. prof. of econ., teach.; b. 1916; B.S., 1944, M.A., 1945, Ph.D., 1947, Virginia. Fields 1a, 16, 11c. Doc. dis. Government control in agriculture. Res. What contributions would guaranteed annual wages in industry make to agricultural price policy; topical digest of Labor-Management Relations Act of 1947.

PRASOW, Paul, 7311 Rindge Ave., Playa del Rey, Calif. (1947) Univ. of Southern California, asst. prof., teach., res.; b. 1915; B.S. in Econ., 1940, A.M., 1942, Pennsylvania; Ph.D., 1948, Southern California. Fields 16, 11a, 1a. Doc. dis. An examination of role of arbitration principles in an emerging "industrial jurisprudence." Res. Management of labor relations.

PRATHER, Charles Lee, 2200 Parkway, Austin 21, Tex. (1931) Univ. of Texas, prof., dept. head, teach., res.; b. 1899; B.Ed., 1922, Eastern Illinois State Col.; M.A., 1923, Ph.D., 1927, Illinois. Fields 7, 8, 1. Doc. dis. Gold policy of Federal Reserve System. Pub. Money and banking (Irwin, 3rd ed. 1945). Res. Money and banking; banking, principles and practices.

PRATHER, Robert M., 910 S. Michigan Blvd., Chicago 80, Ill. (1944) Standard Oil Co. (Ind.), dir., chemical market res., bus.; b. 1903; B.S., 1925, Rutgers. Fields 11b, 3, 2.

PREHN, Edward Christopher, Jr., 200 Hart Blvd., Staten Island 1, N.Y. (1937)

PREINREICH, Gabriel A. D., 17 E. 42nd St., New York 17, N.Y. (1940) Self-employed, C.P.A., bus., res.; b. 1893; S.B., M.B.A., 1928, City of New York; 1928-30, New York; Ph.D., 1935, Columbia. Fields 1c, 11c, 8a. Doc. dis. Nature of dividends (Lancaster Press, 1935). Pub. Present status of renewal theory (1940), Theory and general principles of depreciation (1941) (Waverly Press); "Economic life of industrial equipment," Econometrica, Jan., 1940. Res. Theory of firm in calculus of variations.

PRENTICE, James Stuart, Middlebury Col., Middlebury, Vt. (1935)

PRESANIS, Aris, 59, Salisbury Ave., Cheam, Surrey, England. (1945) Kleinwort Sons & Co., Ltd., bus.; b. 1912; License, 1933, Athens School of Econ.; M.S., 1946, London School of Econ. Fields 7, 10, 6.

PRESTON, Howard Hall, 5026 15th N.E., Seattle 5, Wash. (1918) Univ. of Washington, Col. of Econ. and Bus., dean, prof. of money and banking, teach.; b. 1885; B.S., 1911, LL.D., 1938, Coe; M.A., 1914, Ph.D., 1920, Iowa. Fields 7, 10, 2, Doc. dis. History of banking in Iowa (State Hist. Soc. of Iowa, 1922). Pub. "Monetary policy," in If men want peace (Macmillan, 1947); "Washington banks in the two world wars," Papers of Pacific Coast Econ. Asso., 1942; "Banking Act of 1933," A.E.R., Dec., 1933. Dir. W.W. in Amer., in Amer. Educa., on Pacific Coast.

PRESTON, Stanley Wales, Box 8415, Univ. Sta., Baton Rouge 3, La. (1933)

- PRETTI, Reno C.**, R.F.D. 2, Glenwood Springs, Colo. (1947)
- PREWITT, Roy A.**, 2703 Upshur St., Apt. 8, Mt. Rainier, Md. (1940) Dept. of Interior, econ. govt. serv.; b. 1903; B.S., 1934, M.A., 1936, Missouri; 1939-41, Cornell Univ. Fields 12a, 1a, 16. Pub. Survey of labor market in Missouri in relation to unemployment compensation (with J. H. Klamon and R. S. Bauder) (Washington Univ. Press, Mar., 1937); "Operation and regulation of crude oil and gasoline pipe lines," Q.J.E., Feb., 1942.
- PRIBRAM, Karl**, 3625 16th St., N.W., Washington 10, D.C. (1939) U.S. Tariff Com., prin. econ.; American Univ., School of Soc. Sci., adjunct prof.; teach., res.; b. 1877; Dr. jur., 1900, Univ. of Prague; 1902-03, Univ. of Berlin; 1904-05, Vienna. Fields 1b, 10, 16. Pub. Cartel problems (Brookings Inst., 1935); "Notion of economic system underlying business cycle analysis," Rev. of Econ. Statist., 1937; "Residual, differential and absolute ground rents," Econometrica, 1940. Res. Political and economic implications of patterns of thought; history of economic reasoning. Dir. Dir. of Schol.
- PRICE, C. Hoyt**, Polit. Affairs, OMGUS, APO 742, c/o Postmaster, New York, N.Y. (1947) Foreign Serv. of U.S.A., vice-consul, govt. serv.; b. 1918; 1935-37, Jr. Col., Beebe, Ark.; B.S., 1939, M.A., 1942, Ph.D., 1947, Virginia. Fields 10, 7, 1. Doc. dis. Prospects for German industry under reparations plan. Pub. Problem of Germany (co-author) (Coun. of For. Rela., Nov., 1947).
- PRICE, Hugh Bruce**, Univ. of Kentucky, Col. of Agric., Lexington 29, Ky. (1918) Univ. of Kentucky, prof. of agric. econ. teach., res.; b. 1888; 1910-13, Dakota Wesleyan Univ.; A.B., 1914, Wisconsin; M.A., 1916, Minnesota; Ph.D., 1921, Yale. Fields 15b, 11b, 1a. Doc. dis. Inspection and grading of grain. Pub. Marketing of farm products (editor and contrib.) (Univ. of Minnesota Press, 1928); Organization and management problems of farmers elevators (with C. M. Arthur) (Minn. Agric. Exp. Sta., 1924); Organization and management problems of Rail Cities Milk Producers Association (Ky. Agric. Exp. Sta., 1938). Res. Economics of tobacco marketing; agricultural co-operation in the South. Dir. Lead. in Educa.
- PRICE, Reginald Carrier**, 4319 Second Rd., N. Arlington, Va. (1947) Dept. of Interior, spec. asst. to asst. secy., govt. serv.; b. 1911; B.S.C.E., 1935, Wisconsin; M.A., 1943, American Univ.; 1945, Columbia. Fields 15abd, 13a, 9. Pub. Alaskan development (Dept. of Interior, Feb., 1948). Res. Economic aspects of water resource development and control. Dir. W.W. in Engineering.
- PRICHARD, Lewis G.**, 1212 S.E. 32nd Pl., Portland 15, Ore. (1948) First Nat. Bank of Portland, Res. Dept., dir., res., bus.; b. 1901; 1923-27, Univ. of Washington. Fields 14, 8, 6. Res. Oregon industries.
- PRICHARD, Robert Edward**, 510 Deming Pl., Chicago 14, Ill. (1946) U.S. Fed. Power Com., Chicago Region, econ. anal., govt. serv.; b. 1919; B.S., 1940, Indiana; 1942, Cincinnati. Fields 12b, 13, 4.
- PRIME, John Henry**, 41 Cary Rd., Great Neck, N.Y. (1925) New York Univ., prof. of fin., teach.; b. 1900; B.S., 1922, A.M., 1923, Ph.D., 1933, New York. Field 8ab. Doc. dis. Investment policies of university endowments. Pub. Analysis of industrial securities (1935), Investment analysis (1946) (Prentice-Hall).
- PRINCE, Charles**, 30 Rockefeller Plaza, Room 2616, New York 20, N.Y. (1945) Standard Oil Co. (N.J.), adviser on int. and Soviet Russian affairs, bus.; b. 1905; B.S., 1930, St. Louis; M.S., 1932, Washington Univ.; 1935-37, Chicago; Ph.D., 1943, Georgetown. Fields 10, 4ac, 12a. Doc. dis. Economic factors affecting Soviet Russia's foreign policy (Amer. Polit. Sci. Rev., Aug., Oct., 1944). Pub. "Current views of Soviet Union on international organization of security economic co-operation and international law: a summary," Amer. Jour. of Int. Law., July, 1945; "U.S.S.R.'s role in international finance," Harvard Bus. Rev., Autumn, 1945; "Evolution of and crisis in Soviet jurisprudence," Amer. Bar Assn. Jour., Nov., 1945. Res. Soviet system in world economy, 1917-47; implications of formative ruble bloc area in changing pattern of world trade. Dir. W.W. in Com. and Ind.
- PRINCE, Jack Edward**, 2306 N. High St., Columbus 2, Ohio. (1948) Ohio State Univ., grad. asst., teach., res.; b. 1920; B.A., 1947, Ohio State; 1941-42, Chicago. Fields 16, 7, 17bc. Res. Labor market analysis of one manufacturing firm, Columbus, Ohio (Master's thesis).
- PRITCHARD, Leland James**, 1725 Mississippi, Lawrence, Kan. (1940) Univ. of Kansas, Div. of Fin., head, prof. of fin., teach., res.; b. 1908; A.B., 1929, Cornell Col.; A.M., 1930, Syracuse; Ph.D., 1941, Illinois. Fields 7, 6, 10. Doc. dis. Short-run shifting of unit taxes. Pub. "Effects of specific and ad valorem taxes," Q.J.E., Nov., 1943; "Federal Reserve Bank note," J.P.E., Apr., 1947; "Nature of bank credit," A.E.R., June, 1947. Res. Modern economic problems.
- PRITCHETT, William McCaddin**, Federal Reserve Bank, Dallas 13, Tex. (1946) Federal Reserve Bank of Dallas, agric. econ., res., edit.; b. 1914; B.A., 1938, Lynchburg Col.; M.A., 1939, Ph.D., 1948, Virginia; M.S., 1946, Cornell Univ. Fields 15abd, 1ab, 3a. Doc. dis. Sheep and wool industry in Texas.
- PROKOPEC, Joseph**, 40 Oriental Blvd., Brooklyn 29, N.Y. (1947)
- PRUEFER, Clifford H.**, 926 Massachusetts Ave., N.W., Washington 1, D.C. (1948) Central Intelligence Agency, sec. chief, govt. serv.; b. 1915; Com. Engr., 1937, Cincinnati; M.A., 1939, Minnesota. Fields 12b, 4, 6. Pub. "Excess profits tax and defense financing," Southern Econ. Jour., July, 1941; "Classification in federal service, and the emergency," Amer. Polit. Sci. Rev., June, 1941; "Dual responsibility under a single head," Pub. Admin. Rev., Winter, 1943.
- PUCKETT, Erastus Paul**, 303 Spring St., Fayette, Mo. (1935) Central Col., acting pres.; b. 1882; A.B., 1903, L.L.D., 1931, Howard Col. (Ala.); A.M., 1907, Tulane; 1912-13, Harvard; 1929, Columbia; 1930-31, Missouri; T.L.D., 1930, Kentucky Wesleyan, 1933, Central Col. Fields 2a, 7, 1a. Doc. dis. The free Negro in Louisiana before 1863. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.
- PUEENTE-DUANY, Raphael Blasse**, 6 No. 69 esq. 7a. ave., Miramar, Havana, Cuba. (1943) Universidad de la Habana, asst. prof. of polit. econ.; Dirección de Estadística (Treas. Dept.), Econ. and Fin. Div., econ.; teach., govt. serv.; b. 1909; Dr. of Civil Law, 1937, Ph.D., 1938, Lcte. Diplomarc et Cons. Law, 1939, Univ. de la Habana; 1940-45, American. Fields 1, 7, 10. Doc. dis. El Proceso Agrícola y el Proceso Industrial (Univ. de la Habana, 1938). Res. La Renta Nacional de Cuba.
- PUFFER, Claude E.**, Univ. of Buffalo, Buffalo 14, N.Y. (1941) Univ. of Buffalo, dean of admin., prof. of econ., teach., res.; b. 1905; 1923-25, Iowa; B.B.A., 1932, M.A., 1933, Univ. of Washington; Ph.D., 1940, Stanford. Fields 13b, 1a, 10. Doc. dis. Federal regulation of air transportation. Pub. Air transportation (Blakiston, 1941); Air transportation (Int. Textbook Co., 1948); "Air transport," Crowell Collier Envy., 1948. Dir. Lead. in Educa., W.W. in East, in N.Y.
- PULLEN, Robert White**, 35 Burleigh St., Waterville, Me. (1945) Colby Col., asst. prof., teach.; b. 1919; B.A., 1941, Colby Col.; 1941-45, M.I.T. Fields 16, 7, 1a. Res. Effects of unfair labor practice cases under Wagner Act on collective bargaining (doc. dis.).
- PUNGTRAGUL, Chalong**, 23 adjoining St. Louis Hospital Off Sathorn Rd., Bangkok, Siam. (1946)
- PURDY, Harry Leslie**, 6049 Elm, Vancouver, B.C., Canada. (1939) B.C. Elec. Co., Ltd., Res. Dept., dir., res., bus.; b. 1901; A.B., 1926, Univ. of British Columbia; A.M., 1929, Univ. of Washington; Ph.D., 1935, Chicago. Fields 13ab, 12b, 3a. Doc. dis. Corporate concentration and public policy (Prentice-Hall, 1942). Pub. Cost of municipal

operation of Seattle street railways (Univ. of Washington, 1930).

PUTNAM, Ray, Box 4755, College Station, Tex. (1947)

PYLE, John Freeman, Univ. of Maryland, Col. of Bus. and Pub. Admin., College Park, Md. (1926) Univ. of Maryland, Col. of Bus. and Pub. Admin., dean, Col. of Arts and Sci., acting dean; b. 1890; Ph.B., 1917, A.M., 1918, Ph.D., 1925, Chicago. Fields 11ab, 8b, 9. Doc. dis. Retail sales place in marketing strategy. Pub. Marketing principles (McGraw-Hill, 1931, rev. 1936); Marketing management (1942). Dir. W.W. in Amer., Lead. in Educa., Int. W.W.

QUALLS, Le Roy L., Univ. of Illinois, Dept. of Econ., Urbana, Ill. (1941)

QUANTIUS, Frances Wells, Ohio State Univ., 102 Commerce Bldg., Columbus 10, Ohio. (1943) Ohio State Univ., asst. prof., teach., res.; b. 1915; B.A., 1937, M.A., 1938, Ph.D., 1943, Wisconsin. Fields 7, 9, 10. Doc. dis. Propensity to consume. Pub. "The insurance of bank loans and its implications," Jour. of Bus., Univ. of Chicago, July 1946; "Inflation and Federal Reserve vs. Treasury," Christian Science Monitor, May, 1948; "Sales taxes and the propensity to consume," Southern Econ. Jour., 1945.

QUIGLEY, Carroll, 4472 Reservoir Rd., N.W., Washington 7, D.C. (1943) Georgetown School of For. Serv., prof. of hist.; b. 1910; A.B., 1933, M.A., 1934, Ph.D., 1938, Harvard. Fields 2a, 4a, 12b. Doc. dis. The public administration of first kingdom of Italy, 1805-14. Res. Twentieth century Europe. Dir. Dir. of Schol.

QUIRE, (Mrs.) Catharine DeMotte, 1400 Hawthorne Ter., Berkeley 8, Calif. (1928) Univ. of California, asst. dean of women, asst. prof. of acctg., teach.; b. 1893; A.B., 1915, M.A., 1929, Ph.D., 1937, California. Field 11c. Doc. dis. The dynamic balance sheet: a German theory of accounting.

QUIRIN, Eugene Lafayette, 5 Elm St., Wellesley Hills 82, Mass. (1940) Babson's Reports, Inc., dir. of res., dept head, res., edit.; b. 1902; B.S., 1924, M.I.T.; 1920-21, Univ. of Paris (Sorbonne). Fields 8ab, 6, 1.

QUIRK, Charles B., Providence Col., Providence, R.I. (1945)

RABITT, Daniel John, St. Louis Univ., St. Louis, Mo. (1948) St. Louis Univ., asso. prof., teach., res.; B.S.C., 1936, M.S.C., 1939, St. Louis; LL.B., 1943, St. Mary's. Res. Marketing law; Texas business law.

RACINE, John Louis, P.O. Box 93, Babson Park 57, Mass. (1948) Babson Inst. of Bus. Admin., teach., res.; b. 1917; B.S., 1939, Ohio State; M.B.A., 1945, Toledo; 1946, Northwestern. Fields 11b, 1, 3. Res. Correlation of marketing appeals with business cycle.

RADIUS, Walter A., 6424 33rd St., N.W., Washington 15, D.C. (1942) Dept. of State, Office of Transp. and Communications, dir.; School for Advanced Int. Studies, lecturer; govt. serv., teach.; b. 1910; A.B., 1932, M.B.A., 1934, Ph.D., 1942, Stanford. Fields 13bc, 10, 12b. Doc. dis. U.S. shipping in transpacific trade, 1922-38 (Stanford Univ. Press, 1944).

RADVANYI, Laszlo, Donato Guerra 1-207, Mexico, D.F. (1945) Nat. Univ. of Mexico, prof. of econ.; Scientific Inst. of Mexican Pub. Opinion, dir.; Inst. for Studies in Pub. Opinion and Attitudes, dir.; Int. Jour. of Opinion and Attitude Res., editor; Soc. Sci. in Mexico and South and Central Amer., editor; teach., res., edit.; b. 1900; 1918-19, Univ. of Budapest; 1919-20, Univ. of Vienna; Ph.D., 1923, Univ. of Heidelberg. Fields 12a, 3c, 1b. Doc. dis. Economic and social ideas of Chiasm (Univ. of Heidelberg, 1923). Pub. Public opinion measurement (Scientific Inst. of Mexican Pub. Opinion, 1945); "Problem of international opinion surveys," Int. Jour. of Opinion and Attitude Res., 1947. Res. Measurement of economists' opinions on problems of monopolies; measurement of attitudes of Mexican population toward savings and industrialization.

RAEBECK, Albert John, Princeton Univ., Dept.

of Econ., Princeton, N.J. (1947) Princeton Univ., instr., teach., res.; b. 1922; A.B., 1942, A.M., 1943, 1946-47, Columbia. Fields 10, 6, 3c. Res. International impact of American business cycles (doc. dis.).

RAFFAELE, Joseph A., 419 S. 48th St., Philadelphia 43, Pa. (1948) St. Joseph's Col. of Philadelphia, instr., teach., res.; b. 1916; A.B., 1939, City of New York; M.A., 1948, Temple; 1948, Pennsylvania. Fields 16, 17b, 11. Pub. "Changing status of management prerogatives," Amer. Catholic Soc. Rev., Sept., 1947; "Labor-management group education," Educa., Mar., 1948.

RAFLER, (Mrs.) Doris Detre, 7 Dorset Ave., Chevy Chase 15, Md. (1944)

RAID, Howard Daniel, Bluffton Col., Bluffton, Ohio. (1947) Bluffton Col., Dept. of Econ., head, teach., res.; b. 1912; B.A., 1938, Parsons Col.; M.S., 1947, Iowa State Col.; 1948, Ohio State. Fields 15 abd, 17b, 1a. Pub. "One answer to farm tenancy," Iowa Farm Sci., July, 1947; "Farm succession within a Mennonite church group," Proceed. of the Mennonite Cultural Conf., 1947. Res. Study of farm succession practices among the Swiss Mennonites.

RAMSEY, Fredlyn, 2229 Bancroft Pl., N.W., Washington 8, D.C. (1943)

RANDALL, R. J., Natal Univ. Col., Warwick Ave., Durban, S. Africa. (1946)

RANDLE, Clinton Wilson, Texas A. and M., Econ. Dept., College Station, Texas. (1946) Texas A. and M., prof., dept. head; b. 1910; A.B., 1931, M.A., 1938, Duke; Ph.D., 1947, Kentucky. Fields 16, 10, 11a. Doc. dis. United States-Latin American trade. Pub. "Analysis of southwestern petroleum refinery wages," Petroleum Engr., Dec., 1943; "Earnings in southwestern petroleum refineries," Monthly Labor Rev., Jan., 1944; "Latin American markets for U.S. industry," Export Gazette, Mar., 1946. Res. Collective bargaining; labor legislation and industrial peace; fringe issues in collective bargaining. Dir. W.W. in Arbitration, in Amer. Educa.

RANKIN, Andrew Findlay, 49 Florence St., Wollaston 70, Mass. (1946) Eastern Nazarene Col., asso. prof., teach.; b. 1909; A.B., 1934, Eastern Nazarene Col.; A.M., 1940, 1940-48, Boston Univ. Fields 16, 2a, 4a. Res. American labor literature, with bibliography (doc. dis.).

RANKIN, John Owen, Box 387, Hayti, Mo. (1937) Alfordella Plantation, owner; b. 1884; Ph.D., 1932, Cornell Univ. Fields 15b, 17, 3.

RANSMEIER, Joseph Sirera, 13 E. Wheelock St., Hanover, N.H. (1946) Dartmouth Col., asst. prof., teach., res.; b. 1915; A.B., 1936, Oberlin; A.M., 1937, Ph.D., 1942, Columbia. Fields 13a, 12b, 15a. Doc. dis. The Tennessee Valley Authority: a case study in economics of multiple purpose stream planning (Vanderbilt Univ. Press, 1942). Pub. Shadow and substance in TVA power controversy (Vanderbilt Univ. Press, 1941); "Regulation of service charges in holding company systems," Jour. of Land and Pub. Util. Econ., Feb., 1938. Res. Economic aspects of recent TVA power operations.

RANSOM, William Lynn, 33 Pine St., New York 5, N.Y. (1924) Whitman, Ransom, Conlson and Goetz, partner; b. 1883; LL.B., 1905, Cornell Univ.; LL.D., 1947, Wesleyan, 1948, Tulane. Fields 16, 13a, 11a. Dir. W.W. in Amer.

RAO, Badri Srinivas Raghu-Narain, 1818 H St., N.W., Washington 6, D.C. (1946) Inter. Bank for Reconstruction and Development, econ., res.; b. 1916; B.A., 1935, M.A., M.Litt., 1940, Annamalai Univ. (Madras, India); M.A., 1948, Harvard. Fields 10, 13b, 9. Pub. Road-rail transport (with special reference to conditions prevalent in Coimbatore, Travancore and Hyderabad) (Annamalai Univ., 1941); "The rate of interest and economic equilibrium," Mar., 1936; "Cheap money," 1936, Mysore Econ. Jour. (India). Res. Economies of representative countries in Far East.

RAO, Vijayendra K. R. V., Univ. of Delhi, Delhi, India. (1947)

RAPHAEL, Chaim, British Information Serv.

ices, 30 Rockefeller Plaza, New York 20, N.Y. (1948) British Information Services, chief econ., govt. serv., edit., res.; b. 1908; B.A. 1930, M.A. 1933, Oxford Univ. Fields 4ab, 10, 2. Res. Public information services in controlled economies.

RAPKIN, Chester, 303 Shirley St., Falls Church, Va. (1947)

RAPPAPORT, Donald, 7 Greenview Way, Upper Montclair, N.J. (1948)

IRAPPARD, William E., Valavran, near Geneva, Switzerland. (1911)

RASHISH, Myer, Williams Col., Williamstown, Mass. (1948) Williams Col. instr., teach.; b. 1923; A.B., 1944, M.A., 1947, Harvard. Fields 10, 6, 1a. Res. International propagation of business cycles (doc. dis.).

RASMUSSEN, E. Gun, Vanderbilt Univ., Nashville, Tenn. (1948)

RASMUSSEN, Jewell J., Univ. of Utah, Salt Lake City 1, Utah. (1947)

RATCHFORD, B(enjamin) U(ysses), Box 4727, Duke Sta., Durham, N.C. (1929) Duke Univ., prof.; b. 1902; B.S., 1926, Davidson Col.; A.M., 1927, Ph.D., 1932, Duke; 1927-28, Cornell Univ. Fields 9, 7, 1a. Doc. dis. History of the North Carolina debt, 1712-1900 (excerpts, N.C. Historical Rev., Jan., June, Oct., 1933). Pub. American state debts (Duke Univ. Press, 1941); Berlin reparations assignment (with W. D. Ross) (Univ. of North Carolina Press, 1947); "The Burden of a domestic debt," A.E.R., Sept., 1942. Res. Comprehensive study of economic resources and policies of the South.

RATCLIFF, Richard U., Univ. of Wisconsin, Sterling Hall, Madison 6, Wis. (1935) Univ. of Wisconsin, prof., teach., res., edit.; b. 1906; B.A., 1927, Wisconsin; M.B.A., 1934, Ph.D., 1935, Michigan. Fields 15e, 14b, 12b. Doc. dis. Outlying retail nucleations in city of Detroit, Michigan. Pub. Retail site selection (Univ. of Michigan Press, 1939); "Filtering down and elimination of substandard housing," Jour. of Land and Pub. Util. Econ., Nov., 1945. Res. Incentives and factors in housing investment.

RATH, John Joseph, 1396 W. Hazelhurst, Ferndale 20, Mich. (1947) Univ. of Detroit, asst. prof., teach., res., bus.; b. 1917; 1934-35, Wayne Univ.; B.S., 1938, Detroit; M.B.A., 1939, New York. Fields 11ab, 1a, 16.

RATNER, Sidney, 121 Joralemon St., Brooklyn 2, N.Y. (1939)

RATZLAFF, Carl Johann, 2246 N. Pollard St., Arlington, Va. (1932) Univ. of Maryland, prof., dept. head; b. 1895; 1916-17, North Dakota; B.S., 1922, M.A., 1924, Minnesota; 1925, Chicago; M.A., 1928, Ph.D., 1930, Harvard. Fields 10, 16, 1ab. Doc. dis. Theory of free competition. Pub. Free competition (1936), Scandianavian unemployment relief program (1934) (Univ. of Pennsylvania Press); Planned society: yesterday, today, tomorrow (co-author) (Prentice-Hall, 1937). Res. International economics; economics of labor. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

RAUSHENBUSH, Carl, 62 Merriam Ave., Bronxville 8, N.Y. (1948) Res. Inst. of Amer. econ., res., edit.; b. 1900; A.B., 1922, Amherst; 1922-24, Cornell Univ.; 1924-25, Brookings; Ph.D., 1931, New York. Fields 16, 17bc. Doc. dis. Conciliation and arbitration as methods of settling labor disputes in U.S. Pub. Labor cases and materials (with C. Raushenbush and E. Stein) (Appleton-Crofts, 1941); Labor problems in America (with others) (Rinehart, 1940); Freedom of association in U.S. (Int. Labor Office, 1930).

RAUSHENBUSH, Paul A., 2228 Hillington Green, Madison, Wis. (1923)

RAUTENSTRAUCH, Walter, Columbia Univ., New York 27, N.Y. (1940) Columbia Univ., prof. emeritus, res., teach.; b. 1880; B.S., 1902, LL.D., 1932, Missouri; M.S., 1903, Maine. Fields 14a, 12a, 11a. Pub. Economics of business enterprise (Wiley, 1939); Design of industrial enterprise (1941), Modern industrial organization (1942) (Pitman). Dir. W.W. in America.

*RAVENTÓS, José Raimundo, Apartado 673, San Jose, Costa Rica, C.A. (1948) Almacen Raven-

tós, atty., bus., res., teach.; b. 1926; attended Universidad de Costa Rica, Queen's Univ. (Canada); B.S., 1948, Northwestern. Fields 7, 10, 1a.

RAVER, Paul Jerome, 729 N.E. Oregon, Portland 8, Ore. (1933)

RAY, Donald Page, George Washington Univ., Hall of Government, Washington 6, D.C. (1944) Academy of World Econ., exec. secy., res.; b. 1916; A.B., 1941, Univ. of Colorado; 1941, Cornell Univ.; 1941-42, Harvard; M.A., 1942, George Washington. Fields 10, 2b. Pub. "Our progress in Japan," 1947, "Problems of a Japanese peace settlement," 1948, World Affairs. Res. Japanese postwar economy. Dir. W.W. in Amer., Who Knows—and What.

RAYMAKER, Constance Louise, 854 E. State, Jacksonville, Ill. (1929) MacMurray Col. for Women, Dept. of Econ. and Bus., dept. head, prof., teach.; b. 1898; B.A., 1927, Lawrence; M.A., 1928, Ph.D., 1933, Northwestern. Fields 1ab, 16, 2. Doc. dis. Machine competition and union policies in printing industry (Summary of Ph.D. Dissertations, Northwestern Univ., 1933).

RAYMOND, Fred Ingalls, 629 W. Washington Blvd., Chicago 6, Ill. (1943) F. I. Raymond Co., owner, bus.; b. 1894; B.S., 1917, Northwestern. Field 4. Pub. The limitist (W. W. Norton, 1947); "A suggestion for the double taxation problem," Taxes, the Tax Mag., Oct., 1946.

REA, L. Owens, Wake Forest Col., Wake Forest, N.C. (1931)

READ, George Johnston, Chelsea Products Corp., 1206 Grove St., Irvington, N.J. (1941)

READ, Leonard Edward, Irvington-on-Hudson, N.Y. (1937) Found. for Econ. Educa., pres.

READ, Willie Harold, Univ. of Tennessee, Box 8446, Knoxville 16, Tenn. (1941) Univ. of Tennessee, prof. of acctg., Bur. of Bus. Res., asso. dir.; b. 1908; B.S.C., 1930, Tennessee; M.B.A., 1935, Northwestern. Fields 11c, 9, 8c. Pub. Accounting manual for Tennessee counties (1938), Municipal accounting standards (1940) (Univ. of Tennessee Press); "War Dept. Classification of accounts," Acctg. Rev., July, 1947. Res. Airport accounting manual for Tennessee airports; standard classification of accounts for Tennessee municipalities.

*REAGAN, Barbara Benton (Mrs. Sydney C.), 61 Dorothy Rd., Arlington, Mass. (1947) Radcliffe Col., student, govt. serv.; b. 1920; B.S., 1941, Texas; M.A., 1946, American. Fields 15b, 17d, 3. Pub. Wages by type of farm and type of farm work, U.S. and major type of farming regions, 1945 (1947) Perquisites furnished hired farm worker, U.S. and major regions, 1945 (1946) (Bur. of Agric. Econ.).

REAGAN, Sydney C., South Agric. Bldg., Washington, D.C. (1947) U.S. Dept. of Agric., Farmers Home Admin., Statis. Sec., chief, govt. serv., res.; b. 1916; B.B.A., 1937, LL.B., 1941, Texas; 1944-47, American; 1948, Harvard. Fields 15ab, 1, 3.

REBELÉ, Ralph H., 4 Montgomery St., San Francisco, Calif. (1941)

REBER, Hugh Jackson, 1 Wall St., New York, N.Y. (1942)

REDDICK, Olive Irene, Hood Col., Frederick, Md. (1930) Hood Col., Dept. of Econ. and Soc., dept. head, prof. of econ., teach.; b. 1896; B.A., 1919, Ohio Wesleyan; M.A., 1921, Columbia; summer, 1927, Chicago; M.A., 1928, Ph.D., 1932, Radcliffe. Fields 16, 10. Doc. dis. Labor relations in Los Angeles.

REDER, Melvin Warren, Univ. of Pennsylvania, Dept. of Econ., Philadelphia, Pa. (1947) Univ. of Pennsylvania, asso. prof., teach., res.; b. 1919; A.B., 1939, California; 1939-41, Chicago; Ph.D., 1946, Columbia. Fields 16, 1ac, 3ab. Doc. dis. Studies in theory of welfare economics (Columbia Univ. Press, 1947). Pub. "Theoretical problems of a national wage-price policy," Feb., 1948, "Interrelations of a supply and demand within a firm," Feb., 1941, Canadian Jour. of Econ. and Polit. Sci.; "Interest and employment," J.P.E., June, 1946. Res. Effect of labor unions on wage rates. Dir. Who Knows—and What.

REDLICH, Fritz Leonhard, 42 Oak St., Belmont, Mass. (1937) Mass. State Housing Bd., dir.

- of res. and statis., res., govt. serv.; b. 1892; Ph.D., 1914, Univ. of Berlin. Fields 2a, 7, 10. Doc. dis. Die volkswirtschaftliche Bedeutung der deutschen Teerfarbenindustrie (Duncker & Humblot, Munchen und Leipzig, 1914). Pub. Molding of American banking: men and ideas (Hafner, 1947); Essays in American economic history (G. E. Stechert, 1945); Reklame, Begriff, Geschichte, Theorie (Encke, Stuttgart, 1935). Res. Molding of American banking, 1840-1910. Dir. Dir. of Schol.
- REECE, B. Carroll, 1129 House Office Bldg., Washington, D.C. (1942)
- REED, Edward W., Univ. of Arkansas, Col. of Bus. Admin., Fayetteville, Ark. (1940) Univ. of Arkansas, prof., teach.; b. 1913; B.Ed., 1936, Southern Illinois Univ.; M.A., 1937, Ph.D., 1947, Illinois. Fields 9, 1a, 12b. Doc. dis. Interjurisdictional tax problems.
- REED, Harold Lyle, 422 Cayuga Heights Rd., Ithaca, N.Y. (1912) Cornell Univ., prof., teach., res.; b. 1888; A.B., 1911, Oberlin; Ph.D., 1914, Cornell Univ. Fields 7, 1a, 10. Pub. Development of Federal Reserve policy (Houghton Mifflin, 1922); Money, currency and banking (1942), Federal Reserve policy, 1921-30 (1931) (McGraw-Hill). Res. Restatement of monetary theory. Dir. W.W. in Amer.
- REED, James R., 1126 S. 70th St., Milwaukee 1, Wis. (1946) Allis Chalmers Mfg. Co., Com. Res., mgr.
- REED, Spencer Harris, 3839 Garfield St., N.W., Washington, D.C. (1946)
- REEDY, John Henry, Jr., Pennsylvania State Col., State College, Pa. (1946) Pennsylvania State Col., asst. prof. of econ., teach.; b. 1917; B.S., 1939, Illinois; M.A., 1946, Indiana; 1940-42, New York. Fields 10, 7, 6.
- REEDY, Theodore W., 316 N. Thomas St., Arlington, Va. (1940)
- REES, Albert Everett, 4544 S. Oakenwald, Chicago 15, Ill. (1948)
- REEVE, Joseph Edwin, 5745 Lambeth Rd., Bethesda 14, Md. (1931) U.S. Govt., Bur. of Budget, Fiscal Div., chief fiscal anal., govt. serv.; b. 1907; A.B., 1929, Amherst; 1929-30, London School of Econ.; 1930, Bonn Univ.; Ph.D., 1939, Chicago. Fields 7, 9, 12. Doc. dis. Monetary reform movements (Amer. Coun. on Pub. Affairs). Dir. W.W. in East.
- REGIER, Donald W., 3014 West St., Ames, Iowa. (1948)
- REHN, Henry Joseph, Southern Illinois Univ., Carbondale, Ill. (1947) Southern Illinois Univ., Col. of Vocations and Professions, dean, teach.; b. 1900; 1920-24, Oregon State Col.; 1924-25, Oregon; 1929-30, summers, 1926, 1928, Chicago. Fields 11ac, 8ac, 14a. Doc. dis. Scientific management and cotton textile industry. Pub. Cost accounting (Walton School of Com., 1938); "A new form of realization and liquidation statement," Amer. Accountant, 1929.
- REICH, Joseph, 914 Pelham Pkwy., New York, N.Y. (1940) Foxrich Co., pres., bus., res.; b. 1918; B.S., 1939, New York; M.A., 1940, Columbia. Fields 12a, 1ab, 14a.
- REICH, Nathan, 3135 Sedgwick Ave., New York 63, N.Y. (1936) Hunter Col., prof., dept. head; Amer. Jewish Joint Distribution Com., res. consult.; teach., res.; b. 1900; B.A., 1925, M.A., 1926, McGill; 1927-28, Chicago; Ph.D., 1938, Columbia. Fields 16, 1ab, 4a. Doc. dis. Organization of industrial relations in Weimar, Germany (Oxford Univ., 1938). Pub. Labour relations in Republican Germany (Oxford Univ. Press, 1938); Canadian pulp and paper industry (Macmillan, Toronto); chapter, in Economic trends in the American Jew (Harper, 1942). Res. Collective bargaining: some legal aspects.
- REID, Elliot, Mohawk, N.J. (1946) Socony-Vacuum Oil Co., Mktg. Res. Dept., res.; b. 1895; attended Columbia, New York. Fields 14a, 3a, 6.
- REID, James E., Univ. of Maryland, College Park, Md. (1947) Univ. of Maryland, prof., teach.; b. 1900; B.S., 1923, Iowa; M.A., 1933, 1933-36, American. Fields 11ab, 1, 8.
- REID, Margaret G., Univ. of Illinois, Dept. of Econ., Urbana, Ill. (1932) Univ. of Illinois, prof. of econ., teach., res.; b. 1896; B.S., 1921, Univ. of Manitoba; Ph.D., 1931, Chicago. Fields 17d, 4, 3. Doc. dis. Economics of household production (Wiley, 1934). Pub. Consumers and market (Crofts, 1942); Food for people (Wiley, 1942). Dir. W.W. in Amer., Lead. in Educa.
- REIERSON, Roy Lester, 80 Cranberry St., Brooklyn 2, N.Y. (1929) Bankers Trust Co., asst. vice-pres., bus.; b. 1906; A.B., 1926, St. Olaf; 1926, summer, Minnesota; M.B.A., 1929, Ph.D., 1933, Northwestern; summer, 1939, Oxford Univ. (England). Fields 7, 11c, 13a. Doc. dis. Some aspects of cost of capital for public utility companies. Pub. National debt and commercial banks (Comm. on Pub. Debt, 1947); "Cost of capital," Jour. of Land and Pub. Util. Econ.
- *REIFLER, Ronald Marshal, Univ. of Chicago, School of Bus., Room 2, Chicago 37, Ill. (1948) Univ. of Chicago, student; b. 1925; 1942-43, Illinois; M.B.A., 1948, Chicago. Fields 8ab, 7, 14c.
- REIFMAN, Alfred, 76 Forrester St., S.W., Washington 20, D.C. (1946) Dept. of State, Div. of Res. for Europe, Western Europe Econ. Sec., chief, res., govt. serv.; b. 1919; A.B., 1940, M.A., 1941, Michigan. Fields 2b, 10, 1. Pub. European recovery program: country studies: France (major author) (Jan. 15, 1948), The Monnet four-year plan for French economy (Feb. 28, 1947), European reconstruction survey: France (Aug. 19, 1946), Finland (Oct. 8, 1946) (Dept. of State).
- REILLY, Edward Ernest, Univ. of Western Ontario, London, Ont., Canada. (1936)
- REILLY, Milton Alva, The Citadel, Charleston, S.C. (1946)
- REIMANN, Guenter, 444 Homestead Ave., Mt. Vernon, N.Y. (1944) Int. Statis. Bur., Inc., dir. of int. res.; b. 1904; 1923-25, Berlin Univ. Fields 10, 8b, 4a. Pub. The myth of the total state (Morrow, 1941); The vampire economy (Vanguard Press, 1939). Res. Cyclical movements in Russian economy. Dir. W.W. in Amer.
- REINER, James, 20 E. Cedar St., Chicago 11, Ill. (1936) Self-employed, bus.; b. 1890. Fields 8a, 7, 14a.
- REINERTSEN, Peter Amos, 3500 39th St., N.W., Washington 16, D.C. (1943) War Assets Admin., field staff dir., bus., govt. serv., teach.; b. 1887; A.B., 1908, A.M., 1910, Augustana Col.; 1909-10, Chicago; 1910-11, Minnesota. Fields 8ab, 7, 12b. Dir. W.W. in Chicago and Illinois.
- REINHARDT, Hedwig, 779 Riverside Dr., New York 32, N.Y. (1942) Col. of City of New York, Dept. of Bus. Admin., teach., res.; b. 1906; Ph.D., 1929, Univ. of Heidelberg (Germany). Fields 9, 7, 8ab. Doc. dis. Grundfragen der deutschen öffentlichen Verschuldung (Erich Reiss Verlag, Berlin, 1930). Pub. "On the incidence of public debt," May, 1945; "The great debt redemption (1946-47)," June, 1948, Soc. Res.; "What is going to happen to American tax system?" Nat. Fed. of Bus. and Prof. Women's Clubs, Oct., 1947. Res. Advanced credit problems.
- *REISCHER, Otto Richard, 251 W. 68th St., New York 23, N.Y. (1948) Columbia Univ., student; b. 1917; 1936-40, Northwestern; A.B., 1946, Michigan; M.A., 1948, Columbia. Fields 10, 4a, 1a. Res. Russian match industry-participation of U.S.S.R. in international match cartel.
- REISMAN, George F., 220 Straight St., Paterson 1, N.J. (1946) Natalie Lampshades Co., partner; Reisco, Inc., treas.; Straight Street Realty Corp., vice-pres., bus.; b. 1924; B.S. in S.S., 1943, City of New York; M.A., 1947, Yale. Fields 11a, 16, 6.
- *REITER, Stanley, 6128 S. Woodlawn Ave., Chicago 37, Ill. (1948)
- REMER, Charles Frederick, 1016 Martin Pl., Ann Arbor, Mich. (1923)
- REMINGTON, William Walter, 1717 Riggs Pl., N.W., Washington 9, D.C. (1947) Dept. of Com., dir., export program staff, govt. serv.; b. 1917; A.B., 1939, Dartmouth; M.A., 1940, Columbia. Fields 12, 10, 11ab. Pub. "Veterans emergency housing program," Duke Law Jour., Winter, 1947.
- RENNE, Roland Roger, Montana State Col.,

- Bozeman, Mont. (1931) Montana State Col., pres.; b. 1905; B.S., 1927, Litt.D.(Hon.), 1947, Rutgers; M.S., 1928, Ph.D., 1930, Wisconsin. Fields 15a, 9, 10. Doc. dis. Tariff on dairy products (Rawleigh Found., 1932). Pub. Land economics (Harper, 1947); The Montana citizen (with J. W. Hoffman) (State Pub. Co., Helena, Mont., 1937); "Rural educational institutions and social lag," Rural Soc., Sept., 1936. Dir. W.W. in Amer., Int. W.W.
- **REUBENS, Beatrice G.** (Mrs. Edwin P.), Cornell Univ., Goldwin Smith Hall, Dept. of Econ., Ithaca, N.Y. (1944)
- REUBENS, Edwin P.**, Cornell Univ., Goldwin Smith Hall, Dept. of Econ., Ithaca, N.Y. (1946)
- REUSS, Frederick Gustav**, 3017 Wayne Ave., Baltimore 7, Md. (1945) Goucher Col., asso. prof., teach.; b. 1904; 1925, Univ. of Kiel; M.A. in Econ., 1926, M.A. in Juris., 1927, Univ. of Munich; Dr. of Law and Polit. Econ., 1929, Univ. of Wurzburg; M.A. in Soc. Work, 1939, Catholic. Fields 17b, 10, 7. Doc. dis. Unused trade marks as a buffer of protection (Herbert, Augsburg, 1930). Pub. "Railroad Retirement Act and Social Security Act," Soc. Forces, May, 1947; Institutions for transportation credit (1931), International co-operation in social security (Berlin Govt. Pub., 1932).
- REUSS, (Mrs.) Margaret M.**, 1035 E. Ogden Ave., Milwaukee, Wis. (1942)
- *REVA, Hermos**, 424 N. Solano, Albuquerque, N.M. (1948)
- REYNOLDS, Alice J.** (Mrs. Richard A.), Baldwin, Md. (1940)
- REYNOLDS, Lloyd George**, 333 Cedar St., New Haven, Conn. (1937) Yale Univ., prof. of econ., Labor and Mgt. Center, asso. dir., dept. head, res., teach.; b. 1910; B.A., 1931, Univ. of Alberta; M.A., 1933, McGill Univ.; Ph.D., 1936, Harvard. Fields 1, 12, 16. Doc. dis. British immigrant in Canada (Oxford Univ. Press, 1935). Pub. Control of competition in Canada (Harvard Univ. Press, 1940); "Relations between wage rates, costs and prices," 1942, "Toward a short-run theory of wages," June, 1943, A.E.R. Res. Analysis of New Haven labor market; behavior of wages in U.S., 1929-49; determinates of business decisions. Dir. Dir. of Schol.
- REYNOLDS, Thomas Jesse**, 137 Bellevue Ave., Upper Montclair, N.J. (1941) Rutgers Univ., School of Bus. Admin., asso. prof., teach., govt. serv., res.; bus.; b. 1912; B.A., 1933, Swarthmore; M.A., 1935, Columbia. Fields 16, 9, 3a.
- REYNOLDS, William Aitcheson**, 350 E. 54th St., New York 22, N.Y. (1944) Carpet Inst., Inc., econ., res.; b. 1916; A.B., 1938, William and Mary; M.A., 1940, New York; 1948, Columbia. Fields 6, 3c, 11b. Res. Economics of demand for floor coverings (doc. dis.).
- RHODES, Edward Everett**, 233 Elwood Ave., Newark 4, N.J. (1923)
- RIBAS, Antonio Fabra**, Seccion de Cooperacion, Escuela Practica de Agricultura, Maracay, Venezuela, S. Amer. (1947) Ministry of Agric., Sec. of Cooperation, head, govt. serv., teach., res.; b. 1879; Licenciado in Philosophy and Letters, 1900, Univ. of Barcelona (Spain); 1901-08, Univs. of Paris, Belfast, London, Glasgow, Edinburgh, Berlin. Fields 4c, 15e, 16. Pub. La Organizacion Internacional del Trabajo (1925), Origen y caracter del Movimiento laborista (1924) (Madrid); La Cooperacion: Su porvenir esta en las Americas (ed. 1, Buenos Aires, 1940, ed. 2, Caracas, 1942, ed. 3, Medellin, Colombia, 1945). Res. Cooperatives: principal causes of their success and their failure.
- RIBEIRO FILHO, João de Souza**, Praca 15 de Novembro, 10-2º andar, Rio de Janeiro, Distrito Federal, Brazil, S. Amer. (1945) Shell-Mex Brazil, Ltd., Econ. and Development Sec., asst., dept. head, bus., edit.; b. 1915; Expert Accountant, 1934, Academia de Comercio do Rio de Janeiro; Economist, 1944, Faculdade de Ciencias Economicas do Rio de Janeiro. Fields 4b, 11a, 15d. Doc. dis. A reorganização política e econômica do mundo de apos-guerra. Pub. Planificação econômica dos estados democraticos (Livreria Editora Coelho Branco, 1948); "Um dia venceremos," Diario da Manha, Jan. 4, 1945; "Tres providencias inadiveis na Economia nacional," Finances e Seguros, Feb., 1948. Res. Population and migration.
- RICE, Lloyd Preston**, 4 Webster Ter., Hanover, N.H. (1915) Dartmouth Col., prof., teach., res., govt. serv.; b. 1889; A.B., 1913, Wesleyan Univ.; A.M., 1914, Ph.D., 1920, Harvard. Fields 9, 10, 2a. Doc. dis. General property tax in Connecticut, 1635-1771. Pub. Report of Tax Commission of Philippines on national internal revenue laws (co-author) (Commonwealth of Philippines, Bur. of Prtg., 1939); "Financing social security by means of payroll taxes," in How shall business be taxed (Tax Policy League, 1937); "Principles of taxation in present emergency," Annals of Amer. Acad., Mar., 1941. Res. Our federal tax system. Dir. W.W. in Amer., Dir. of Schol., Int. W.W.
- RICE, Stuart Arthur**, Bur. of Budget, Washington 25, D.C. (1929) Bur. of Budget, Exec. Office of Pres., asst. dir. in charge of statis. standards, govt. serv.; b. 1889; A.B., 1912, A.M., 1915, Univ. of Washington; Ph.D., 1924, Columbia. Fields 3, 17, 10. Doc. dis. Farmers and workers in American politics (Columbia Studies, 1924). Pub. Quantitative methods in politics (Knopf, 1928). Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.
- RICH, Chester L.**, Cornell Col., Mt. Vernon, Iowa. (1944)
- RICHARDS, Cecil Sydney**, Univ. of Witwatersrand, Milner Park, Johannesburg, S. Africa. (1934) Univ. of Witwatersrand, prof. of com., Faculty of Com., dean, teach., res., edit., bus., govt. serv.; B. Com., 1922, M.Com., 1925, Univ. of Durham (England); 1928, London School of Econ.; D.Sc., 1941, Univ. of Witwatersrand. Fields 7, 8, 10. Doc. dis. Iron and steel industry in South Africa (Univ. of Witwatersrand Press, 1940). Pub. "Banking and currency system of South Africa" (with E.H.D. Arndt), in Foreign banking systems (Holt, 1929); "Economic revival in South Africa," Econ. Jour., Dec., 1934; "Task before us, with special reference to industry," South African Jour. of Econ., Sept., 1944. Res. Problem of devaluation, with special reference to South Africa. Dir. South African W.W.
- RICHARDS, Howard Earl**, 1250 W. 75th St., Cleveland 2, Ohio. (1940) Hupp Corp., Globe Stamping Div., dir. of ind. rela., bus.; b. 1915; B.A., 1936, Fresno State Col. Fields 16, 11a, Res. Increased productivity through standards of performance.
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RIGGLEMAN, John Randolph, 6612 Hillandale Rd., Chevy Chase 15, Md. (1923)

RILEY, Donald Crockett, R.F.D. 5, Box 264, Alexandria, Va. (1928) U.S. Bur. of Budget, Div. of Statis. Standards, deputy chief, govt. scrv.; b. 1905; B.S., 1927, Col. of Wooster; M.A., 1928, Princeton; 1931-32, Harvard. Fields 3c, 14, 16. Pub. Report on statistical system of Puerto Rico (Puerto Rican Budget Office, 1948); Report of advisory committee on social scientists and economists (Pres. Com. on Civil Service Improvement, 1939).

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RILEY, John Joseph, 58 Turner St., Plymouth, Pa. (1948) Wilkes Col., instr., teach.; b. 1915; 1945, Iowa; 1947, Bucknell; 1948, Pennsylvania. Fields 16, 1a.

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RINGO, (Mrs.) Miriam K., 800 S. Washington St., Alexandria, Va. (1942)

RIPPS, Evelyn L., 121-8 Hancock, 3665 38th St., N.W., Washington 16, D.C. (1943)

RIST, Charles, 4 rue Michelet, Paris, France. (1922)

RITCHIE, Fred, ESS, GHQ, CINCFE, Price Control and Rationing Div., APO 500, c/o Postmaster, San Francisco, Calif.

"RITTER, Claire Fliess (Mrs. Lawrence S.), 525 State St., Madison, Wis. (1947)

"RITTER, Lawrence S., 525 State St., Madison, Wis. (1947) Univ. of Wisconsin, grad. teach. asst., teach.; b. 1922; B.A., 1943, Indiana; M.A., 1948, Wisconsin. Fields 1a, 6, 16.

RITZ, Philip Milton, 707 Upland Pl., Alexandria, Va. (1943) Budget Bur., Div. of Statis. Standards, econ. govt. scrv.; b. 1915; B.E., 1937, Milwaukee State Teachers Col.; Ph.M., 1939, Wisconsin; 1941-48, American. Fields 1ab, 3ac, 14a. Pub. Subsidies and food price stabilization (Govt. Prtg. Office, 1948).

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RIVERA, Hector José, c/o Box 359, Col. of Agric., Mayaguez, P.R. (1947) Univ. of Puerto Rico, asst. prof., teach., res.; b. 1921; B.A. in Educa., 1945, Univ. of Puerto Rico; 1945-46, New York. Fields 1a, 9, 3. Res. Tax system of Puerto Rico (master's thesis).

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ROBB, William Coulter, Univ. of Illinois, Col. of Com., Urbana, Ill. (1937) Univ. of Illinois, Col. of Com., Personnel Dept., asst. dean, head, dir. of placement of grad. of college; A.B., 1914, A.M., 1915, Augustana; J.D., 1925, Northwestern; L.M., 1937, Harvard. Fields 16, 7, 8.

ROBBINS, Chandler, 47 N. Fullerton Ave., Montclair, N.J. (1943)

ROBBINS, Dorothy, 344 W. 72nd St., New York 23, N.Y. (1945)

ROBBINS, Lionel Charles, London School of Econ. and Polit. Sci., Houghton St., Aldwych, London, W.C.2, England. (1947)

ROBBINS, Sidney, 4501 Airway Rd., Dayton, Ohio. (1940)

ROBERTS, David Renshaw, Carnegie Inst. of Tech., Pittsburgh 13, Pa. (1938) Carnegie Inst. of Tech., asst. prof., teach.; b. 1911; B.S., 1933, Boston; A.M., 1940, Ph.D., 1941, Harvard. Fields 16, 1a, 6. Doc. dis. Textile workers union of America. Pub. Insights into labor issues (contrib.) (Macmillan, 1948); "Measures of employment," Survey of Cur. Bus., Oct., 1947; "Distribution of non-agricultural employees by hourly wage rates," Jour. of the Amer. Statis. Assn., Dec., 1944. Res. Government financing of business during the war. Dir. Who Knows—and What.

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ROBERTS, Frank LaRue, 203 Westover Ave., Williamsburg, Va. (1943) Col. of William and Mary, Dept. of Econ. and Bus. Admin., asst. prof., teach., bus.; b. 1915; B.S. in B.A., 1938, Arkansas; M.B.A., 1940, Texas. Fields 11, 1ab, 3a.

ROBERTS, George Bassett, Nat. City Bank of New York, New York, N.Y. (1932)

ROBERTS, Harold Selig, Univ. of Hawaii, Honolulu, T.H. (1937) U.S. Dept. of Labor, Collective Bargaining Div., chief; Univ. of Hawaii; res., teach; B.S., 1934, City of New York; A.M., 1938, Ph.D., 1944, Columbia. Fields 16, 13b, 1a. Doc. dis. The rubber workers—labor org. and collective bargaining in rubber industry (Harper, 1944). Pub. Written trade agreements in collective bargaining (co-author) (U.S. Govt. Prtg. Office, 1940); "Growth of British labor movement—British labor in present war," Labor Inf. Bul., Jan., Feb., 1942; "First six months under the Taft-Hartley Act," in Occasional Paper 45 (Univ. of Hawaii, 1948). Res. Background of Taft-Hartley Act. Dir. Dir. of Schol., W.W. in Com. and Ind.

ROBERTS, Hazel Van Dyke, 526 W. 113th St., New York 25, N.Y. (1925)

ROBERTS, Merrill Joseph, 300 Canterbury Rd., Knoxville 15, Tenn. (1944) TVA, transp. econ., res., govt. serv.; b. 1915; B.A., 1938, 1939-40, Minnesota; M.B.A., 1939, summer, 1947, Chicago. Fields 13b, 12b, 1a. Pub. "Recent innovations in railroad freight and passenger equipment," Jour. of Bus., Jan., 1940.

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ROBERTS, Verl E., 1613 Harvard St., N.W., Washington 9, D.C. (1942)

ROBERTS, Warren Aldrich, 1409 E. Main St., Crawfordsville, Ind. (1945)

ROBERTS, William H., 1610 Park Rd., N.W., Washington, D.C. (1944)

ROBERTSON, Dennis Holme, Trinity Col., Cambridge, England. (1938) Cambridge Univ., prof. of polit. econ.; b. 1890; M.A., 1915, Trinity Col.; Hon.D., 1932, Commerce, Amsterdam, 1936, Letters, Harvard, 1947, Econ., Louvain. Fields 7, 1a, 6. Pub. A study of industrial fluctuation (1915), Essays in monetary theory (1940) (P. S. King); Money (Nisbet & Co., 1922, 1929, 1948).

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ROBERTSON, Lauri, 3128 S. 35th St., Lincoln, Neb. (1946)

ROBEY, Ralph West, 205 W. 57th St., New York 19, N.Y. (1927) Nat. Asso. of Mfrs., chief econ., res.; b. 1899; A.B., 1920, Indiana; A.M., 1923, Ph.D., 1938, Columbia. Fields 7, 6, 4. Dir. W.W. in Amer.

ROBINSON, Dwight E., New York Univ., 54 E. 66th St., New York 21, N.Y. (1948)

ROBINSON, Joe A., 22 Lee Blvd., Falls Church, Va. (1945)

ROBINSON, Leland Rex, 2 W. 45th St., New York, N.Y. (1916)

*ROBINSON, Marshall Alan, Ohio State Univ., Com. Bldg., Econ. Dept., Columbus 10, Ohio. (1947) Ohio State Univ., teach. asst., res., teach.; b. 1922; A.B., 1943, California; M.A., 1948, Ohio State. Fields 7, 4b, 9.

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*ROBINSON, Natalie P., Columbia Univ., Johnson Hall, P.O. Box 52, New York 27, N.Y. (1947)

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ROELSE, Harold Vincent, 248 Midland Ave., Montclair, N.J. (1930) Fed. Res. Bank of New York, vice-pres., dept. head, res., edit.; b. 1894; B.S., 1915, Hastings Col.; M.A., 1918, Wisconsin. Fields 7, 6, 8.

ROESLER, Theodore W., 114 W. Gilman St., Madison 3, Wis. (1947)

ROGERS, Beatrice A., Mass. Inst. of Tech., 77 Massachusetts Ave., Cambridge, Mass. (1941)

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ROGERS, Herbert Orville, OMGUS, Econ. Div., Decartelization Br., APO 742, c/o Postmaster, New York, N.Y. (1928)

ROHRBAUGH, Daniel Woodrow, 3419 Walnut St., Philadelphia 4, Pa. (1948) Univ. of Pennsylvania, student; b. 1913; A.B., 1935, Franklin and Marshall Col.; M.A., 1941, Duke; 1946-47, Johns Hopkins; 1947-48, Pennsylvania. Fields 13, 2, 1. Res. Air transportation (doc. dis.).

ROHRLICH, George Friedrich, 1412 Delafield Pl., N.W., Washington 11, D.C. (1942) Soc. Sec. Div., Public Health and Welfare Sec., SCAP, Tokyo, Japan, Econ. Analysis Br., chief, govt. serv.; b. 1914; Dr. Jur., 1937, Univ. of Vienna; Ph.D., 1943, Harvard. Fields 17b, 9, 16. Doc. dis. Adequacy and solvency in unemployment compensation, need for federal equalization. Pub. "Equalization schemes in German unemployment compensation," Q.J.E., May, 1944; "Consolidation of unemployment insurance and problem of centralization," Pub. Admin. Rev., Winter, 1944; Funds and accounts in federal government (Harvard Grad. School of Pub. Admin., 1944). Res. Social security in Japan.

ROYKO, Anthony S., Univ. of Connecticut, Dept. of Agric. Econ., Storrs, Conn. (1948)

ROLFE, Sidney E., 5111 University Ave., Chicago 15, Ill. (1947)

ROLLEFSON, Arthur Marvin, 5701 43rd Ave., Hyattsville, Md. (1946) U.S. Dept. of Agric., agric. econ., govt. serv., res.; b. 1913; B.A., 1935, Luther Col.; M.A., 1940, Iowa. Fields 4c, 15bd, 16.

ROLLER, George H., 8806 Flower Ave., Silver Spring, Md. (1944)

ROLPH, Earl R., Univ. of California, Dept. of Econ., Berkeley, Calif. (1945)

ROLPH, John Gladwyn, 227 E. 57th St., New York 22, N.Y. (1940) B. 1889; 1924, 1924-25, Harvard. Fields 7, 16, 11a. Pub. "Why labor banks?" Savings Bank Jour., Jan., 1930.

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ROOSE, Kenneth Davis, 12631 Califa St., North Hollywood, Calif. (1940) Univ. of California at Los Angeles, asst. prof., teach., res.; b. 1919; B.A., 1940, Southern California; M.A., 1943, Ph.D., 1948, Yale. Fields 6, 1, 3. Doc. dis. Recession and revival of 1937-38. Pub. "Recession of 1937-38," J.P.E., June, 1948. Res. Implications of recession of 1937-38 for public policy.

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ROPES, Ernest C., 693 Broad St., Stratford, Conn. (1944)

RÖPKE, Wilhelm, 45 ave. de Champel, Geneva, Switzerland. (1946) Grad Inst. of Int. Studies, prof., teach., res.; b. 1899; Dr. phil., 1921, Univ. of Göttingen, Tübingen and Marburg. Fields 1a, 10, 6. Doc. dis. Die Arbeitsleistung im deutschen Kalibergbau (Walter de Gruyter, Berlin, 1922). Pub. Crises and cycles (1936), International economic disintegration (1942) (Hodge, London); Die Gesellschaftskrisis der Gegenwart (Eugen Rentsch Verlag, Zurich, 5th ed., 1948). Res. Restatement of my trilogy on social crisis of our time in terms of present European situation. Dir. Int. W.W.

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ROREM, Clarence Rufus, 311 S. Juniper St., Philadelphia 3, Pa. (1927) Hospital Coun. of Philadelphia, exec. dir.; b. 1894; A.B., 1916, Oberlin; A.M., 1925, Ph.D., 1929, Chicago; LL.D., 1935, Yankton Col. Fields 11ac, 17bcd, 5. Doc. dis. Business value. Pub. Accounting method (McGraw-Hill, 1928, 1932, 1942); The public's investment in hospitals (Univ. of Chicago Press, 1930); Blue Cross Hospital service plans (Amer. Hospital Asso., 1940, 1944). Res. Hospital administration. Dir. W.W. in Amer.

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- ROSENTHAL, Richard Laurence, 125 E. Putnam Ave., Greenwich, Conn. (1938) Citizens Utilities Co., pres.; N.Y. Water Service Corp., pres.; Richard L. Rosenthal Corp., pres.; bus.; b. 1915; B.S., 1936, 1936-38, New York. Fields 11a, 13a, 8ab. Pub. "Prescription for smaller business," Harvard Bus. Rev., Fall, 1945; Economic outlook (Wertheim & Co.).
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- SABY, Rasmus S., 321 Carlisle St., Gettysburg, Pa. (1914) Gettysburg Col., Dept. of Polit. Sci. and Econ., dept. head, teach.; b. 1881; B.A., 1907, M.A., 1908, Minnesota; 1908-09, Cornell Univ.; Ph.D., 1910, Pennsylvania. Fields 13a, 1a. Doc. dis. Early railroad legislation in Minnesota (Minn. State Hist. Soc., 1915).
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***SALTZMAN, Arthur W.**, 2918 Holland Ave., Bronx, New York 67, N.Y. (1948)

SALZ, Arthur, Ohio State Univ., Dept. of Econ., Columbus 10, Ohio. (1945)

SAMETZ, Arnold William, Princeton Univ., Dept. of Econ. and Soc. Inst., Princeton, N.J. (1946) Princeton Univ., instr., res., teach.; b. 1919; A.B., 1940, Brooklyn Col.; A.M., 1942, Princeton. Fields 1b, 6, 7. Res. Secular stagnation and mature economy (doc. dis., Princeton).

SAMMONS, Wheeler, 536 Deming Pl., Chicago, Ill. (1935)

SAMOORE, Arthur Setrak, Illinois Col., Jacksonville, Ill. (1945) Illinois Col., bus. mgr., asst. prof., bus., teach.; b. 1907; 1924-26, Michigan; 1926-30 (evenings), Northwestern; B.S., 1931, summers, 1944-46, Illinois. Fields 11ac, 8ab, 9. Res. Comprehensive evaluation of suggested principles for college financial management (master's thesis).

SAMUELSON, Carl A., 2809 Highcrest Rd., Rockford, Ill. (1936) Nat. Lock Co., controller, bus.; 1920-26, Northwestern; 1941-46, Chicago. Fields 11, 12, 1.

SAMUELSON, Paul Anthony, Massachusetts Inst. of Tech., Cambridge, Mass. (1938)

SANCETTA, Anthony L., Western Reserve Univ., Adelbert Col., Dept. of Bus. and Econ., Cleveland, Ohio. (1947)

SANDALE, Arthur G., 221 Ave. F, Brooklyn 18, N.Y. (1941) Holmes & Narver, statis., bus., res.; b. 1919; A.B., 1941, Brooklyn Col. Fields 11a, 14b, 1ab.

SANDELIN, G. Lincoln, 1427 Chapin St., N.W., Apt. 25, Washington 9, D.C. (1943) Int. Bank for Reconstruction and Development, asst. loan officer, bus.; b. 1907; B.A., 1929, Michigan. Fields 8, 7, 9.

SANDERS, Thomas Henry, Harvard Bus. School, Margan Hall 223, Soldiers Field, Boston 53, Mass. (1919) Harvard Univ., Grad. School of Bus. Admin., prof. of acctg., teach., res.; b. 1885; B.C., 1903, M.C., 1914, Univ. of Birmingham (England); Ph.D., 1921, Harvard. Fields 11c, 12b, 13a. Pub. Problems in industrial accounting (A. W. Shaw Co., rev. 1930); Cost accounting for control (McGraw-Hill, 1934); Accounting principles and practices (with Hatfield and Burton) (Ginn, 1940). Res. Study of annual reports to stockholders. Dir. W.W. in Amer.

SANDERSON, Fred Hugo, 3359 S. Wakefield St., Arlington, Va. (1944)

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SANFORD, George William, Case Inst. of Tech., Cleveland 6, Ohio. (1933)

SANG, Heng-Kang, 542 W. 112th St., Apt. 6B, New York, N.Y. (1947)

SANOW, Kenneth Paul, 2136 N. Kedzie Ave., Chicago 47, Ill. (1946) SCAP, Japan, tax adviser, govt. serv.; b. 1919; B.A., 1939, M.A., 1946, Chicago. Fields 9, 11c, 1a. Pub. "Property tax exemption," State Govt., Apr., 1946; "Korean taxation: fiscal year 1946-47," Nat. Tax Asso. Bul., Oct., 1947. Res. State and local government tax problems in Japan.

SAPIR, (Herbert) Michael, R & S Div., ESS, 3HQ, APO 500, c/o Postmaster, San Francisco, Calif. (1938)

SAPOSS, David Joseph, 1928 Belmont Rd., N.W., Washington 9, D.C. (1928) U.S. Dept. of Labor, Bur. of Labor Statis., res., teach.; b. 1886; attended Wisconsin, Columbia. Fields 16, 17ac, 4ac. Pub. History of labor in U.S. (Macmillan, 1918);

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SARD, Edward L., 32-37 93rd St., Jackson Heights, N.Y. (1943) World ORT Univ., Fin. and Acctg. Office, acting dir., dept. head, res.; b. 1913; A.B., 1933, Cornell Univ.; A.M., 1936, 1940-41, Columbia. Fields 4ab, 1ab, 16. Pub. "Housing in reverse," ORT Econ. Rev., Sept., 1947; "How Britain does it," Amer. Federationist, Aug., 1943; What does the war mean to you? (Soc. Studies Pub. Co., 1942). Res. Theory and importance of components analysis (doc. dis.).

***SARFATY, David E.**, 50 Monument Walk, Brooklyn 1, N.Y. (1948)

SARGENT, Noel, 14 W. 49th St., New York, N.Y. (1924)

SARNOFF, Milton M., 29 Hampton Pl., Brooklyn 13, N.Y. (1941)

SAROSI, Oliver, Mercer Univ., Macon, Ga. (1940) Mercer Univ., prof. of econ., teach.; b. 1901; B.C.S., 1928, New York; Dipl. in Polit. Econ., Dr. of Polit. Econ., 1936, Royal Hungarian Univ.; 1945-46, Northwestern; 1947-48, Johns Hopkins. Fields 8ab, 3a, 6. Doc. dis. Trend in American labor movement (Century Press, Budapest, 1936). Pub. "Labor movement," Our Century Quar. (Budapest), Fall, 1936.

SASS, Frederick Nahum, 2124 Pine St., Philadelphia 3, Pa. (1947) Univ. of Pennsylvania, instr., teach. res.; B.S., 1938, Temple; 1938-43 (part time), Pennsylvania. Fields 1ac, 16, 3. Res. Stability of distribution of national income.

SASULY, Max, 412 5th St., N.W., Room 408, Washington 1, D.C. (1938)

SAUCERMAN, Robert C., 222 N. Blackhawk Ave., Madison 5, Wis. (1941)

SAUER, Nora E., Stat. Anal. Br., Secy. Gen. Staff, Hq. EUCOM, APO 403, c/o Postmaster, New York, N.Y. (1945)

SAULNIER, Raymond Joseph, 106 Morningside Dr., Apt. 88, New York, N.Y. (1936)

***SAUNDERS, Robert Santley**, 2379 Madison Rd., Cincinnati 8, Ohio. (1946)

SAUNDERS, Stanley Alexander, 57 Roxborough St., W., Toronto, Ont., Canada. (1931)

SAUNDERS, Willard John, 1208 Picardy Dr., Modesto, Calif. (1944)

SAURINO, Benedict, 1608 Walnut St., Philadelphia 3, Pa. (1942) Sun Oil Co., Statis. Res. Div., mgr.; b. 1904; M.E., 1926, New York. Fields 14ac, 6, 1.

SAVILLE, Lloyd Blackstone, Box 6155, Col. Sta., Durham, N.C. (1943) Duke Univ., asst. prof., teach., res.; b. 1913; A.B., 1935, Pennsylvania; M.A., 1936, 1948, Columbia. Fields 14a, 1a, 7. Res. Pricing methods in steel, malleable iron, and nonferrous foundry industries (doc. dis.). Dir. Who Knows—and What.

SAWWAF, Husni A., 2215 Wyoming Ave., Washington 8, D.C. (1938)

SAWYER, Ruth F., Carnegie Inst. of Tech., Pittsburgh 13, Pa. (1946)

SAXTON, Pierre William, 195 Broadway, New York 7, N.Y. (1918)

SBAROUNIS, Athanasios John, Fairfax Hotel, 2100 Massachusetts Ave., N.W., Washington 8, D.C. (1948) Athens School of Econ. and Com.

Sci., prof., govt. sev., teach., bus.; b. 1892; Dr. of Law, Univ. of Lausanne; Dr. of Econ. and Com. Sci., Athens School of Econ. and Com. Sci. Fields 9, 1a, 7. Doc. dis. L'Impôt sur le Revenu en Grèce (Librairie du Recueil Sirey, Paris, 1934). Pub. General lines of fiscal policy (Athens, 1935); André M. Andrédades, fondateur de la science des finances en Grèce (Librairie du Recueil Sirey, 1936); Two reconstructions of Greece (New York, 1948). Dir. W.W. in Central and Eastern Europe.

SCATTERGOOD, Margaret, McLean, Va. (1947)

SCHAAF, (Carl) Hart, Cornell Univ., School of Bus. and Pub. Admin., Ithaca, N.Y. (1944) Cornell Univ., Grad. School of Bus. and Pub. Admin., asso. prof., teach.; b. 1912; A.B., 1935, Michigan; 1930-31, Univ. of Montpellier (France); 1937-39,

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SCHAFFNER, Joseph Halle, 5 E. 57th St., 21st Fl., New York 22, N.Y. (1924)

SCHAFFNER, Philip Pettibone, 6926 Standish Dr., Landover, Md. (1945) Treas., Dept., Office of Int. Fin., Western European Div., econ., govt. serv.; b. 1911; A.B., 1933, Princeton; M.A., 1936, Ph.D., 1940, Ohio State. Fields 10, 7, 5. Doc. dis. Bank clearing process as approach to theory of money. Pub. "Neglected component of money supply," A.E.R., Sept., 1939; "Intra-account clearing and supply of money," *Chicago Jour. of Bus.*, Apr., 1938.

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SCHINKOFF, Harold P., 1 Attorney St., New York 2, N.Y. (1945)

SCHIRMANN, Daniel, 105 Chester Ct., Peoria 5, Ill. (1941) Labor rela. consult., bus.; b. 1910; A.B., 1933, Wisconsin; Ph.D., 1945, Chicago. Fields 16, 17, 9. Doc. dis. Central versus local responsibility for unemployment relief. Pub. State-local fiscal relations in Illinois (contrib.) (Univ. of Chicago Press, 1941). Res. Labor-management relations in selected small concerns.

SCELLING, Thomas C., Kirkland House B14, Cambridge 38, Mass. (1946)

SCHENK, William E., Texas A. and M. Col., Dept. of Econ., College Station, Tex. (1946) Texas A. and M. Col., asso. prof., teach., res.; b. 1911; B.S., 1934, Montana State Col.; A.M., 1939, Michigan; Ph.D., 1948, Illinois. Fields 14b, 4b, 9. Doc. dis. Technology, capital and government fiscal policy. Pub. "Shall co-operatives remain tax-exempt?" *Opinion and Comment*, Feb. 15, 1947; "Mexican emergency labor in Montana," May 30, 1944; "Incentives for Mexican laborers," Sept. 15, 1944, *Montana Farmer*. Res. Relationship of scientific research to economic affairs; pressures towards economic equalities.

SCHENKER, David, 226 W. Jackson Blvd., Chicago 6, Ill. (1948) U.S. Bur. of Labor Statis., employment anal., govt. serv., res.; b. 1915; B.S., 1936, 1938-42, Pittsburgh. Fields 3ac, 6, 14. Pub. Trends in expenditures in footwear industry (with L. Earl) (U.S. Dept. of Labor, 1948). Res. Measuring productivity in specified industries and changes in employment levels.

SCHERMOES, Douglas F., 4444 Wilson Blvd., Arlington, Va. (1945)

*SCHERER, Joseph, 6026 Woodlawn Ave., Chicago 37, Ill. (1944)

SCHERER, Nathan, 328 Brinton Ave., Trenton 8, N.J. (1947) Unemploy. Comp. Com., prin. training adviser; Rutgers Univ., lecturer; teach., govt. serv.; b. 1912; B.A., 1935, New York; 1937-39, Columbia. Fields 17b, 4b, 16.

SCHICKELE, Rainer Wolfgang, North Dakota

Agric. Col., State Col. Sta., Fargo, N.D. (1936) North Dakota Agric. Col., Dept. of Agric. Econ., dept. head, prof., res., teach.; b. 1905; Ph.D., 1931, Univ. of Berlin Agric. Col.; 1939-40, Harvard. Fields 15abd, 4a, 17d. Doc. dis. Die Weidewirtschaft in den Trockengebieten der Erde (Gustav Fischer, Jena, 1931). Pub. "Society and the masses," Oct., 1942, "Optimum income distribution as goal of public policy," Apr., 1944, *Amer. Jour. of Econ. and Soc.*; "National food policy and surplus agricultural production," *Jour. of Farm Econ.*, Nov., 1947. Res. Farm income stability in high-risk areas; recent structural changes in rural economy.

SCHIFERL, Max, R. 2, Box 103B, Laurel, Md. (1946)

SHIFF, Eric, 1426 Saratoga Ave., N.E., Washington 18, D.C. (1940) Machinery and Allied Products Inst., res. econ., res.; b. 1901; Dr., 1925, Univ. of Vienna. Fields 10, 6, 17d. Pub. Kapitalbildung und Kapitalaufzehrung in Konjunkturverlauf (J. Springer, Vienna, 1933); "Family size and residential construction," A.E.R., Mar., 1946; "Direct investments, terms of trade, and balance of payments," *Q.J.E.*, Feb., 1942.

SCHIFF, Frank William, Columbia Univ., Dept. of Econ., New York 27, N.Y. (1946)

**SCHIFF, Marie S. (Mrs. Eric), 1426 Saratoga Ave., N.E., Washington 18, D.C. (1943)

SCHIFF, Michael, New York Univ., Grad. School of Bus. Admin., 90 Trinity Pl., New York 6, N.Y. (1942) New York Univ., Grad. School of Bus. Admin., asst. prof., teach.; b. 1915; B.B.A., 1936, M.B.A., 1939, City of New York; Ph.D., 1947, New York. Fields 11c, 9, 5. Doc. dis. State business taxation (N.Y. State Tax Com., 1948). Pub. "Postwar taxation," *Trusts and Estates*, 1945. Res. Cost accounting for distribution; inventory adjustments and national income estimates.

SCHIRBER, Martin Edward, St. John's Univ., Collegeville, Minn. (1947) St. John's Univ., dean; b. 1907; B.A., 1931, St. John's Univ.; M.A., 1937, Catholic; Ph.D., 1940, Harvard. Fields 15b, 7, 11b. Doc. dis. The Antigonish movement: its method and meaning. Pub. "Co-operatives and poverty," *Catholic Soc. Rev.*, Mar., 1945; "Economics of co-operation," in *United for freedom* (Bruce, 1945). Dir. Catholic W.W.

SCHLAGENHAUF, Milton John, 360 Huntington Ave., Boston, Mass. (1922)

SCHLATTER, William Joseph, 821 Dewey Ave., Ann Arbor, Mich. (1940) Univ. of Michigan, asst. prof., teach., res.; b. 1912; A.B., 1933, A.M., 1934, B.S., 1935, Ph.D., 1947, Illinois; 1934-35, Wisconsin; 1937-38, California. Fields 11c, 1, 8. Doc. dis. Effects of adjustments in stated capital and paid-in surplus on economic position of corporate stockholders and creditors.

SCHLINK, Frederick John, Consumers' Res., Washington, N.J. (1931) Consumers' Res., pres., tech. dir., dept. head, edit., res.; b. 1891; B.S. in M.E., 1912, M.E., 1917, Illinois. Field 17d. Pub. 100,000,000 guinea pigs (with A. Kallet) (Vanguard Press, 1933); *Your money's worth* (with S. Chase) (Macmillan, 1927). Dir. W.W. in Amer., in Engineering, in East, among Amer. Authors, in Amer., Educa., Int. World W.W.

*SCHLOSS, Henry H., 1113 Amsterdam Ave., Apt. 15, New York 25, N.Y. (1946) Columbia Univ., student; Rutgers Univ., instr.; b. 1919; A.B., 1946, Nebraska Wesleyan Univ.; 1946, Chicago; M.B.A., 1948, Columbia; 1948, Univ. of Leeds (England). Fields 10, 1, 15.

SCHMELZLE, William Kress, Univ. of California, School of Bus. Admin., Berkeley 4, Calif. (1942) Univ. of California, lecturer; State Senate of Calif., Interim Com., exec. secy.; teach., res., govt. serv.; b. 1910; B.S., 1930, Juniata Col.; M.B.A., 1932, Pennsylvania; 1939-41, California. Fields 11a, 9, 1a. Pub. State and local government finances in California (Jan., 1947), Report of State Senate Committee on state and local taxation (Jan., 1947) (State Senate of Calif.). Res. Interregional tax rate differentials—implications for industrial location (doc. dis., Univ. of Cali-

fornia); costs of social welfare, school finance, highway costs, and public utility assessments in California. Dir. W.W. on Pacific Coast.

SCHMIDT, Andrew Becker, Univ. of Arizona, Tucson, Ariz. (1939)

*SCHMIDT, Blaine Galen, 1308A Woodland Dr., Richmond Heights 17, Mo. (1947) St. Louis Univ., instr., student, teach.; b. 1916; B.S., 1938, M.S., 1940, Washington Univ. Fields 1a, 11ab, 17d.

SCHMIDT, Carl K., Jr., Ill. Pub. Aid Com., 160 N. La Salle St., Room 2000, Chicago, Ill. (1946)

SCHMIDT, Edward Benjamin, 1741 K St., Lincoln 8, Neb. (1934) Univ. of Nebraska, asso. prof. of econ., teach.; b. 1900, A.B., 1922, Nebraska Wesleyan Univ.; M.A., 1932, Ph.D., 1941, Nebraska; summers, 1934, Chicago, 1935, 1936, California. Fields 9, 11c, 1a. Doc. dis. Appraisal of Nebraska tax system (Univ. of Nebraska Press, 1941). Pub. County consolidation: relation of size to cost of county government in Nebraska (1934), Homestead tax exemption: analysis of real estate holdings in selected communities of Nebraska (1936) (Univ. of Nebraska); "Problems of homestead tax exemption," Tax Mag., 1938, Res. The 1946 reappraisal of real estate in York, Nebraska.

SCHMIDT, Emerson P., Ch. of Com. of U.S.A., Washington 6, D.C. (1934) Ch. of Com. of U.S.A., dir. of econ. res., res., edit., bus.; b. 1899; B.A., 1923, North Central Col.; M.A., 1924, Univ. of Toronto; Ph.D., 1935, Wisconsin. Fields 12, 16, 4a. Doc. dis. Industrial relations in urban transportation (Univ. of Minnesota Press, 1937). Pub. Man and society: substantive introduction to social sciences (Prentice-Hall, 1937); Stagnation or economic progress (with E. W. Swanson) (McGraw-Hill, 1946); Economics of public utilities (John S. Swift Co., 1940). Res. Economic stabilization; industrial relations. Dir. W.W. in Amer. Lead. in Educa.

SCHMIDT, Orvis Adrian, 418 Cummings Lane, Chevy Chase 15, Md. (1940)

*SCHMIDT, Wilson Emerson, Univ. of Pittsburgh, Dept. of Econ., Pittsburgh 13, Pa. (1947)

SCHMOOKLER, Jacob, 927 N. Belmont Ave., Philadelphia 4, Pa. (1948) Univ. of Pennsylvania, instr., teach.; b. 1918; B.A., 1940, Temple; 1945-46, New York; M.A., 1947, Pennsylvania. Fields 12a, 1a, 2a. Res. Long-term price and output changes in consumers' goods.

SCHNEIDER, John Henry, Jr., 68 Stuart Ave., Malverne, N.Y. (1944) Metropolitan Life Ins. Co., res. asst., res.; b. 1914; B.S., 1943, New York. Fields 6, 5, 8c.

SCHNEIDER, Leon G., 1663 Lincoln Pl., Brooklyn, N.Y. (1946)

SCHNEIDER, Russell W., 1615 H St., N.W., Washington 6, D.C. (1946)

SCHNEIDER, Samuel, 126 Pine St., Woodmere, L.I., N.Y. (1946) Bd. of Educa., H.S. of Com., teacher of econ.; b. 1907; B.S. in S.S., 1930, City of New York; M.A., 1935, Columbia. Fields 6, 1a, 12a.

SCHNEIDER, Wilbert M., Walla Walla Col. College Place, Wash. (1946) Walla Walla Col., Dept. of Bus. Admin., dept. head, teach.; B.A., Union Col.; M.B.A., 1944, Oklahoma; summer, 1946, Univ. of Washington; 1947-48, Southern California. Fields 7, 9, 1ab. Res. History, organization, and policies of American Bankers Association (doc. dis.).

SCHOEN, Sterling Harry, 1091 Conway Ct., Willow Run, Mich. (1947)

SCHOENBECK, Henry Fred, Kansas Wesleyan Univ., Salina, Kan. (1947) Kansas Wesleyan Univ., asso. prof., teach.; b. 1906; A.B., 1931, M.A., 1936, summers, 1937, 1938, 1940, 1946, 1947, Nebraska. Fields 16, 2, 1.

SCHOGGEN, Joe Gene, Univ. of Kansas, School of Bus., Lawrence, Kan. (1947)

SCHOLZ, Karl W. H., Univ. of Pennsylvania, Logan Hall, Philadelphia, Pa. (1921)

SCHRAIG, William A., 7522 Walnut Lane, Philadelphia 38, Pa. (1940) Temple Univ., asst. dean, teach.; b. 1906; B.S., 1929, Temple; M.B.A., 1931, Harvard; D.C.S., 1947, New York. Fields 8ab, 7,

3a. Doc. dis. Financial analysis of American rayon industry.

SCHRAMM, John Edward, 20 Wilbur St., Yonkers 4, N.Y. (1944) Sulzbacher, Granger & Co., mgr. res., res. Fields 8b, 6, 1.

SCHROLL, Sister M. Alfred, Mt. St. Scholastica Col., Atchison, Kan. (1940)

SCHUBART, W. H., 1 Wall St., New York, N.Y. (1943)

SCHUHMAN, Alfred, Farragut, Idaho. (1948)

SCHULLER, George J., 1417 N St., N.W., Washington, D.C. (1939)

SCHULMAN, (Mrs.) Rosalind, 534 Cooper St., Camden, N.J. (1947)

SCHULTZ, Arch D., Ohio Ch. of Com., 820 Huntington Bank Bldg., Columbus, Ohio. (1940)

*SCHULTZ, Jane Stern (Mrs. Robert S.), 5 Tudor City Pl., Apt. 330, New York 17, N.Y. (1947)

SCHULTZ, Robert, Brothers Col., Drew Univ., Madison, N.J. (1932) Drew Univ., prof. of econ., dept. head, teach.; b. 1895; B.S., 1923, Haverford Col.; M.A., 1927, Ph.D., 1934, Pennsylvania. Fields 1b, 8a, 16. Doc. dis. Depreciation and American railroads.

SCHULTZ, Robert Spencer, III, 5 Tudor City Pl., Apt. 330, New York 17, N.Y. (1945)

SCHULTZ, Theodore William, Univ. of Chicago, Dept. of Econ., Chicago 37, Ill. (1940) Univ. of Chicago, Dept. of Econ., dept. head, prof. of econ., res., teach.; B.S., 1927, South Dakota State Col.; M.S., 1928, Ph.D., 1930, Wisconsin. Fields 15b, 10, 1. Doc. dis. Economic effects of tariff on barley, oats, and corn (Rawleigh Found., 1933). Pub. Agriculture in unstable economy (McGraw-Hill, 1945); Redirecting farm policy (Macmillan, 1942); Food for the world (Univ. of Chicago Press, 1945). Res. Economic efficacy of labor resources in agriculture; price making institutions. Dir. W.W. in Amer.

SCHUMACHER, Arnold Charles, 7645 Sheridan Rd., Chicago 26, Ill. (1941) Sheridan, Farwell & Morrison, Inc., econ., res., bus.; b. 1916; B.S., 1939, M.A., 1940, Indiana; 1941-42, Northwestern. Fields 6, 8b, 14a. Pub. "Pulp and paper industry in war and peace," Survey of Cur. Bus., Dec., 1942; Hypothetical projection of paper production (U.S. Dept. of Com., 1943). Res. Relationship between flow of income and value of production.

SCHUMANN, John J., Jr., 1775 Broadway, New York 19, N.Y. (1942)

*SCHUMER, William, 18220 Pennington Dr., Detroit, Mich. (1947) B. 1922; A.B., 1944, Michigan; A.M. Certif. of Russian Inst., 1948, Columbia. Field 4a.

SCHUMPETER, Elizabeth Boody (Mrs. Joseph A.), Taconic, Conn. (1927)

SCHUMPETER, Joseph Alois, Taconic, Conn. (1929) Harvard Univ., prof., teach., res.; b. 1883; Dr. (law and polit. sci.), 1906, Vienna; Ph.D. (Hon.), 1913, Columbia, 1936, Sofia. Fields 1, 6, 3. Pub. Theory of economic development (Harvard Univ. Press, 1911); Business cycles (McGraw-Hill, 1939); Capitalism, socialism, and democracy (1942). Res. History of economic analysis; monetary time series; general theory; sociology of our epoch. Dir. W.W. in Amer., Dir. of Schol.

*SCHUR, Leon M., 212 N. Lake St., Madison 5, Wis. (1947)

SCHURMAN, Bernard, 676 E. 3rd St., Brooklyn 18, N.Y. (1947) Col. of City of New York, tutor, teach., res.; b. 1916; B.S.S., 1939, City of New York; M.A., 1947, Columbia. Fields 1b, 4a, 16. Res. Study of National Resources Planning Board.

SCHURR, Sam Harold, 1126 E. 59th St., Chicago 37, Ill. (1947) Cowles Com. for Res. in Econ., Univ. of Chicago, res. asso., asst. prof., res., edit.; b. 1918; B.A., 1938, M.A., 1939, Rutgers; 1939-42, Columbia. Fields 14a, 15c, 2b. Pub. Mining industries, 1899-1939: study of output, employment and productivity (with H. Barger) (Nat. Bur. of Econ. Res., 1944); "Economic aspects of atomic energy as source of power," A.E.R., May, 1947. Res. Economic aspects of atomic power.

- *SCHWARCZ, George E., 10429 Fidelity Ave., Cleveland, Ohio. (1947)
- SCHWARTZ, Bella, 2222 Eye St., N.W., Washington 7, D.C. (1946)
- SCHWARTZ, David, 145 W. Kingsbridge Rd., Bronx, New York 63, N.Y. (1941) OMGUS, Office of Fin. Adviser, Central Bank Group, deputy chief, fin. econ., govt. serv.; b. 1918; B.A., 1938, 1938-39, 1941-42, Columbia; M.A., 1941, California. Fields 12, 3c, 7. Pub. Status of banks in U.S. Zone (quarter ending December 31, 1945) (Apr. 15, 1946). Report of military governor, finance review (Apr., 1947-Mar., 1948) (OMGUS).
- SCHWARTZ, Donald Albert, 2130 N. 18th St., Milwaukee 5, Wis. (1947) Univ. of Wisconsin in Milwaukee, lecturer, teach., res.; b. 1906; Ed.B., 1933, State Teachers Col. (St. Cloud, Minn.); Ph.M., 1943, 1943-45, Wisconsin. Fields 16, 4, 17ud. Pub. "Reorganization plan for Minnesota education." Minn. Jour. of Educa., Feb., 1935; "U.S. in world," News Letter, School for Workers (Univ. of Wisconsin), Mar., 1944.
- SCHWARTZ, Eli, Brown Univ., Providence, R.I. (1947) Brown Univ., instr., teach.; b. 1921; B.S., 1943, Denver; 1945, Univ. of Manchester (England); M.A., 1947, Connecticut. Fields 1a, 7, 11c.
- SCHWARTZ, George, 3415 38th St., N.W., Washington, D.C. (1946)
- SCHWARTZ, Harry, 113 Ramsey Ave., Syracuse 3, N.Y. (1946) Syracuse Univ., asst. prof.; N.Y. Times, Russian specialist; teach., res., edit.; b. 1919; A.B., 1940, M.A., 1941, Ph.D., 1944, Columbia. Fields 2b, 15b, 3a. Doc. dis. Seasonal farm labor in U.S. (Columbia Univ. Press, 1945). Pub. Russia's postwar economy (1947), Soviet economy: selected bibliography (1948) (Syracuse Univ. Press); "On the wage structure of agriculture," Polit. Sci. Quar., Sept., 1942. Res. Prospective future development of Soviet standard of living in relation to population change. Dir. W.W. in East, Who Knows—and What.
- SCHWARTZ, Maurice Herbert, Fed. Res. Bank, Domestic Res. Div., New York 45, N.Y. (1947)
- SCHWARTZ, Norton Julius, 1657 36th St., N.W., Washington, D.C. (1948)
- SCHWARTZ, Robert Jay, 1905 B St., N.E., Washington 2, D.C. (1945) U.S. Treas. Dept., Office of Int. Fin., Int. Statist. Div., acting chief, govt. serv.; b. 1917; B.S.S., 1940, City of New York; M.A., 1942, Columbia; 1948 (part time), American. Fields 10, 7, 16.
- SCHWARTZMAN, Sam, 423 18th St., N.E., Washington 2, D.C. (1948)
- SCHWARZ, John Harry, St. Anthony's Rectory, Atkinson, Ill. (1945)
- SCHWEIGER, Irving, Fed. Res. Bldg., Washington, D.C. (1945) Bd. of Gov. of Fed. Res. System, econ., res.; b. 1919; B.B.A., 1939, City of New York; 1941-42, American; 1946-48, George Washington. Fields 7, 8ab, 1ac. Res. Distribution of consumer saving in 1947.
- SCHWEITZER, Arthur, Indiana Univ., Dept. of Econ., Bloomington, Ind. (1938) Indiana Univ., asso. prof., teach., res.; b. 1905; 1932-33, Univ. of Berlin; Dr. rer. pol., 1936, Univ. of Basle; attended Harvard, Columbia, Chicago. Fields 4ab, 1ab, 6. Doc. dis. Spiethoff's Konjunkturlehre (Helsing & Lichtenhahn, Basle, 1938). Pub. "Role of foreign trade in Nazi war economy," J.P.E., Aug., 1943; "Big business and private property under Nazis," Jour. of Bus., Apr., 1946; "Profits under Nazi planning," Q.J.E., Nov., 1946. Res. Government and business under Nazis. Dir. Lead. in Educa.
- SCHWEITZER, Morton David, 10 Louis Ave., Cincinnati 20, Ohio. (1946)
- SCHWENGER, Robert B., 18 Dresden St., Kensington, Md. (1935) U.S. Dept. of Agric., Office of For. Agric. Rela., govt. serv.; b. 1906; B.A., 1928, Wisconsin; 1930-32, Grad. Inst. of Int. Studies; 1932-33, Chicago. Fields 10, 1, 3. Pub. "World agricultural policies and expansion of trade," Jour. of Farm Econ., Feb., 1945.
- SCHWENNING, Gustav Theodor, P.O. Box 288, Chapel Hill, N.C. (1924) Univ. of North Carolina, prof. of bus. admin.; Southern Econ. Jour., managing editor; teach., edit., res.; b. 1888; B.H., 1920, Springfield Col. (Mass.); M.A., 1921, Ph.D., 1925, Clark Univ.; summer, 1921, Columbia. Fields 11a, 16. Doc. dis. History of industrial work of Y.M.C.A. Pub. Science of production organization (with E. H. Anderson) (Wiley, 1938); Management problems (editor and co-author) (Univ. of North Carolina Press, 1930); "Prospects of southern textile unionism," J.P.E., Dec., 1931. Res. Decline of free labor contract. Dir. W.W. in Amer., in South and Southwest.
- *SCHWIER, Jerome Francis, St. Louis Univ., 3674 Lindell Blvd., St. Louis 8, Mo. (1948)
- SCHWIMMER, Ruth (Mrs. Seymour), 1018 E. 179th St., Bronx, New York 60, N.Y. (1947)
- **SCHWIMMER, Seymour, 1018 E. 179th St., Bronx, New York 60, N.Y. (1947)
- SCOLES, Donald, 2012 Huntington Dr., South Pasadena, Calif. (1945) Univ. of Southern California, teach., bus. res.; b. 1895; B.S., 1916, Northwestern; M.A., 1943, Pennsylvania. Fields 8bc, 16, 7. Res. Development and application of annuity principle by legal reserve life insurance companies of U.S. (doc. dis.).
- SCOLL, Emanuel Edward, 57 Galveston St., S.W., Washington 4, D.C. (1947)
- SCOTT, Andrew Charles, 4138 Grove Ave., Western Springs, Ill. (1948) Chicago, Burlington & Quincy R.R., asst. gen. solicitor, bus.; b. 1892; 1914-15, Beloit Col.; Ph.B., 1922, J.D., 1923, Chicago. Fields 13b, 9, 15. Dir. W.W. in Central West.
- SCOTT, DR., Univ. of Missouri, Columbia, Mo. (1923)
- SCOTT, Ira O., Jr., Univ. of Kansas, School of Bus., Lawrence, Kan. (1948) Univ. of Kansas, instr., teach.; b. 1918; A.B., 1940, M.A., 1941, Kansas; 1946-47, Harvard. Fields 1, 5, 7.
- SCOTT, Karl M., Marietta, Ohio. (1946)
- SCOTT, Reginald Hood, Univ. of Pittsburgh, Pittsburgh, Pa. (1933)
- SCOVILL, Hiram Thompson, Univ. of Illinois, 217 David Kinley Hall, Urbana, Ill. (1914) Univ. of Illinois, dept. head, prof., teach., res.; b. 1885; A.B., 1908, Illinois; LL.D., 1946, Illinois Col. Pub. Farm accounting (Appleton, 1918); Elementary accounting (Heath, 1923, 1924). Dir. W.W. in Amer., Lead. in Educa.
- SCRIMSHAW, Stewart, 1714 N. 71st St., Wauwatosa 13, Wis. (1913)
- SCROGGS, William Oscar, Louisiana State Univ., Room 5, Law Bldg., Baton Rouge, La. (1910)
- SEAL, Harvey C., Western Illinois State Col., Macomb, Ill. (1937) Western Illinois State Col., asso. prof. emeritus, teach.; b. 1876; A.B., 1914, Emporia State Teachers Col.; A.M., 1915, Columbia; M.A., 1915, Kansas. Fields 1a, 2a.
- SEARLES, Ernest W., 810 Wayne Ave., Dayton 10, Ohio. (1947)
- SEAY, Edward Ward, Knox Col., Galesburg, Ill. (1946)
- SEDGWICK, Robert C., 1054 Ackerman Ave., Syracuse, N.Y. (1936)
- *SEEBOTH, Doris M., 6329 W. Garfield Ave., Wauwatosa 13, Wis. (1947) B. 1924; B.Ph., 1946, 1946-48, Marquette. Fields 1a, 6, 11. Res. Causes of business fluctuations.
- SEELYE, Alfred L., Indiana Univ., School of Bus., Bloomington, Ind. (1942) Indiana Univ., lecturer in mktg., teach.; b. 1913; B.S., 1937, M.S., 1939, 1941, Syracuse. Fields 11b, 12, 14c. Pub. "Drug prices in cities with and without a fair trade law," July, 1941, "Importance of economic theory in marketing courses," Jan., 1947, Jour. of Mktg. Res. Economic and marketing implications of A. & P. court decision under antitrust acts.
- *SEGAL, Harvey H., 127 W. 12th St., New York 11, N.Y. (1947)
- SEGAL, Melvin James, Michigan State Col., Basic Col., Dept. of Soc. Sci., East Lansing, Mich. (1934) Michigan State Col., asso. prof., teach., res.; b. 1910; A.B., 1932, Amherst Col.; 1932-33, Harvard; M.A., 1935, Ph.D., 1938, Illinois.

Fields 16, 1a, 6. Doc. dis. Norris-La Guardia Act and courts (Amer. Coun. on Pub. Affairs, 1941). Pub. "Industrial relations in communications," Yearbook of Amer. Labor, 1948; "Social implications of power age," Soc. Sci. and Math., Mar., 1947. Res. Economics and general education.

SEGAL, Robert Mandal, 39 Gerry Rd., Chestnut Hill 67, Mass. (1946) Lawyer; Mass. Fed. of Labor (A.F.L.), legal counsel; Northeastern Univ., visiting lecturer; bus. teach.; b. 1915; A.B., 1936, Amherst Col.; 1936-38, Chicago; 1938, Brookings; LL.B., 1942, Harvard. Fields 16, 12, 14a. Pub. Demand for steel by railroad and container industries (1940), TNEC papers (1940) (U.S. Steel Corp.); "Relation between lawyers and economists," Boston Bar Assn., Feb., 1948. Res. Independent unions and NLRD (doc. dis.); labor laws in Massachusetts.

SEGAL, Sol Arthur, 209 Market St., Trenton 10, N.J. (1941)

SEIBERT, Joseph Charles, Miami Univ., Oxford, Ohio. (1941) Miami Univ., Mktg. Dept., dept. head, teach.; b. 1910; B.S., 1932, Miami Univ.; M.B.A., 1933, Ph.D., 1941, Northwestern. Fields 11b, 1a, 8b. Doc. dis. Price dispersion and economic balance. Pub. "Miami Valley market area," 1946, "Trends in Miami Valley market factors," 1947, "Experiment in market research," 1947, Miami Bus. Rev. Res. Use of bank debits in determining market potentials.

SEIDL, Julius Carl Gfrörer, 266 W. 23rd St., New York 11, N.Y. (1940) Fordham Univ., School of Bus., Mgt. Dept., dept. head, teach., res.; b. 1902; I.E., 1928, New York; 1928-29, Stuttgarter Technische Hochschule; M.A., 1932, Ph.D., 1936, Fordham. Fields 11a, 16, 14a. Doc. dis. Effect of bilingualism on measurement of intelligence (Fordham Univ., 1937). Pub. Production handbook (contrib. editor) (1944), Cost production handbook (contrib. editor) (1934) (Ronald Press); Essays (Hilder Press Co., 1935). Res. Real profit. Dir. Lead. in Educa., W.W. in Engineering.

SEIDLER, Gustav, Jr., 8 E. Irving St., Chevy Chase 15, Md. (1935) U.S. Army, Gen. Staff, Logistics Div., Procurement Planning Br., asst. chief, econ. consult., govt. serv.; b. 1901; Ph.D., 1922, Univ. of Vienna. Fields 12, 6, 1a. Doc. dis. Changes in structure of Austrian economy, 1918-22. Pub. Methodology of classical economic theory (Gustav Fischer, Jena, 1926); Geographic price differentiation under NRA codes (NRA, 1936). Dir. Dir. of Schol.

SEIDMAN, Joel, 7248 Maryland Ave., Chicago 19, Ill. (1939) Univ. of Chicago, asst. prof. of soc. sci., teach., res.; b. 1906; A.B., 1926, Ph.D., 1932, Johns Hopkins. Field 16. Doc. dis. Yellow dog contract (Johns Hopkins Press, 1932). Pub. Needle trades (Farrar & Rinehart, 1942); Union rights and union duties (Harcourt, Brace, 1943). Res. Labor during World War II. Dir. W.W. in Amer. (sup.).

*SEIP, Julian Richard, 150 Chancellor St., Charlottesville, Va. (1948)

SELBERT, (Mrs.) Frida Foerster, 10525 Carnegie Ave., Cleveland 6, Ohio. (1937) Nat. Machine Tool Builders' Assn., exec. secy., res., bus.; b. 1887; B.S.C., 1928, Cincinnati. Fields 14a, 11, 6.

SELEKMAN, Benjamin Morris, Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston 63, Mass. (1926) Harvard Bus. School, prof., teach., res., bus.; b. 1893; B.S., 1915, Pittsburgh; A.M., 1917, Ph.D., 1927, Columbia. Fields 16, 17bc, 11a. Doc. dis. Postponing strikes: Canadian Industrial Disputes Investigation Act (Russell Sage Found., 1927). Pub. Labor relations and human relations (McGraw-Hill, 1947); British industry today (with S. Kopald) (Harper, 1929); Employees' representation in coal mines (with M. van Kleeck) (Russell Sage Found., 1925). Res. Case book in collective bargaining; processes of collective bargaining. Dir. W.W. in Amer., Int. W.W.

SELIGMAN, Ben B., 35 Crown St., Brooklyn 25, N.Y. (1941) Coun. of Jewish Federations and Welfare Funds, res. asso.; Brooklyn Col., instr.; res., teach.; b. 1912; A.B., 1934, Brooklyn Col.;

1934-35, Columbia; 1941, 1947-48, New School. Fields 1ab, 17a, 6. Pub. "Is the depression inevitable: America's industrial potential under capitalism," Sept., 1947, "Are businessmen human beings: economists grope for realistic psychology," Nov., 1946, "Dice, Dr. Hayek and consumer: notes on recent economic theory," Mar., 1946, Commentary Mag. Res. Jewish population statistics; "heretical" economists.

SELIGSON, Harry, 211 15th St., Denver, Colo. (1948) Univ. of Denver, asso. prof., bus. teach.; b. 1906; A.B., 1926, LL.B., 1929, Michigan. Fields 16, 17a, 15. Res. Casebook in supervision of employees.

SELISKAR, John A., John Carroll Univ., Cleveland, Ohio. (1947)

SELKO, Daniel Theodore, 722 Jackson Pl., Washington, D.C., (1929)

SELTZER, Arthur Owen, 547 W. Brompton Ave., Chicago 13, Ill. (1948) Beloit Col., asso. prof. of econ., teach.; b. 1916; A.B., 1938, A.M., 1941, Chicago. Fields 15e, 2a, 10.

SELTZER, Bernice Lorraine, 2419 Woodruff Ave., Temple City, Calif. (1944) Wenatchee Fed. Savings and Loan Assn., accountant, govt. serv., bus.; b. 1915; B.A., 1943, Univ. of Washington. Fields 11c, 9, 10.

SELTZER, George Owen, 5532 S. Kenwood Ave., Chicago 37, Ill. (1941) U.S. Dept. of Justice, Anti-trust Div., prin. econ. govt. serv.; b. 1918; A.B., 1940, 1940-41, 1946-48, Chicago. Fields 12, 16, 14.

SELTZER, Lawrence Howard, 19475 Stratford Rd., Detroit 21, Mich. (1921) Wayne Univ., prof., teach., res.; b. 1897; A.B., 1920, A.M., 1921, Ph.D., 1925, Michigan. Fields 7, 9, 1a. Doc. dis. Financial history of American automobile industry (Houghton Mifflin, 1928). Pub. Fiscal policy for total war (Nat. Bur. of Econ. Res., 1942); "Problem of our excessive banking reserves," Jour. of Amer. Statis. Asso., 1940; "Changed environment of monetary-banking policy," A.E.R., May, 1946. Res. Nature and tax treatment of capital gains and losses; public debt. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

SENESH, Lawrence, Univ. of Denver, Denver, Colo. (1947)

SENIOR, Clarence Olsson, Bur. of Applied Soc. Res., 15 Amsterdam Ave., New York 23, N.Y. (1945) Columbia Univ., Bur. of Applied Soc. Res., res. asso., res.; b. 1903; B.A., 1927, Kansas; M.A., 1941, Kansas City; 1947-48, Columbia. Fields 4, 10, 17. Pub. Mexico in transition (League for Ind. Dem., 1938); Self-determination for Puerto Rico (Post War World Coun., 1946); Puerto Rican emigration (Univ. of Puerto Rico, 1947). Res. La Laguna: ten years of agrarian experience (doc. dis.); economic and social position and adjustments of Puerto Rican migrant in New York City. Dir. W.W. in Amer.

*SENN, Peter Richard, 5519 Kenwood Ave., Chicago 37, Ill. (1948) Wright Jr. Col., instr., res., teach.; b. 1923; M.A., 1947, Chicago. Fields 7, 1a, 3a. Res. Mathematical formulation of hedging.

SENTURIA, Joseph J., 77 Lindbergh Blvd., Teaneck, N.J. (1946)

SEPMEIER, Kurt Adolph, Box 1096, Florida State Univ., Tallahassee, Fla. (1947) Florida State Univ., asst. prof. of econ., teach., res.; b. 1901; B.A., 1918, Charles Frederick Gymnasium (Mannheim); Ph.D., 1924, Ruperto Carola Univ. of Heidelberg. Fields 1ab, 10, 7. Doc. dis. Motives and facts of reconversion of coal industry (Univ. of Heidelberg, 1924). Res. Primer in social studies.

*SERA, Sergio, c/o Salesians, 148 Main St., New Rochelle, N.Y. (1948)

SERRANO, Enrique Eudaldo, 8 No. 456, Vista Alegre, Santiago de Cuba, Cuba. (1942) Escuela de Servicio Social, Universidad de la Habana, prof., teach.; b. 1912; Dr. en Derecho Civil, Dr. en Ciencias Políticas, Sociales y Económicas, 1939, Universidad de la Habana; attended Columbia. Fields 1a, 3a, 17a. Doc. dis. Las Crises Económicas. Res. Estimación de la población futura de Cuba.

SETHUR, Frederick, 1560 Metropolitan Ave., Bronx, New York 62, N.Y. (1943)

- SETON, Theodore R., 301 Montgomery St., San Francisco 4, Calif. (1946) Merrill, Lynch, Pierce, Fenner & Beane, acct. exec., bus., res.; b. 1919; B.A., 1940, Yale; M.A., 1947, Columbia. Fields 8b, 10, 16.
- SEVERSON, Harry Lorun, 155 Park Dr., New York 65, N.Y. (1946) Dun and Bradstreet, Inc., consult., res., bus.; B.S., 1924, Minnesota; M.S., 1931, 1932-34, Chicago. Fields 8b, 7, 6. Pub. "Municipal credit analysis," in Report of Com. on Munic. Obligations (Nat. Asso. of Supervisors of State Banks, 1941); "Going concern value in bank examination," Com. and Fin. Chron., Aug. 24, 1944.
- SEVERTSON, Dale, 305 Upper College Ter., Frederick, Md. (1948)
- SEVIN, Charles H., U.S. Dept. of Com., Office of Dom. Com., Mktg. Div., Washington 25, D.C. (1946)
- SEYBOLD, John W., 216 Yale Ave., Swarthmore, Pa. (1941)
- SEYMOUR, Helen V., 46 Schenck Ave., Great Neck, L.I., N.Y. (1943) United Nations, sr. liaison officer, govt. serv.; b. 1915; B.A., 1935, Cincinnati; M.A., 1937, Chicago. Fields 16, 10, 17. Pub. When clients organize (Amer. Pub. Welfare Asso., 1937).
- *SHABANA, Zaki M., 2621 Myrtle St., Madison, Wis. (1948)
- *SHAFELI, Mohamed Z., 19 University Pl., Princeton, N.J. (1947)
- SHAFFER, Joseph Ernest, Univ. of New Hampshire, Durham, N.H. (1929) Univ. of New Hampshire, Dept. of Econ. and Bus. Admin., dept. head, prof., teach., res.; b. 1903; A.B., 1925, DePauw; M.A., 1929, Ph.D., 1932, Wisconsin. Fields 1a, 7, 6. Doc. dis. Nonmonetary consumption of gold and its effect on monetary supply of gold. Pub. "Explanation of business cycle," Dec., 1928, "Institutional economics of John R. Commons," June, 1932, A.E.R.; "Ford stores," Harvard Bus. Rev., Apr., 1928. Res. Examination into profits; some implications of marginal productivity; institutionalism.
- *SHAFFER, Harry George, 1827 Pitkin Ave., Brooklyn 12, N.Y. (1948)
- SHAFNER, Felix Ira, 1616 16th St., N.W., Washington 9, D.C. (1941) War Assets Admin., spec. asst. to administrator, memb., Gen. Bd., govt. serv., res.; b. 1904; A.B., 1925, A.M., 1926, Harvard; B.Litt., 1928, Oxford Univ. (England); Ph.D., 1933, Harvard. Fields 7, 10, 8b. Doc. dis. Some economic aspects of investment. Pub. Problem of investment (Wiley, 1936); "Solar and economic relationships: preliminary report" (co-author), Q.J.E., Nov., 1934. Res. Postwar reconstruction; business cycles.
- SHAHAN, Ewing Pope, Vanderbilt Univ., Dept. of Econ., Nashville 4, Tenn. (1941) Vanderbilt Univ., asst. prof.; b. 1914; A.B., 1934, Cornell Univ.; M.B.A., 1936, Harvard; Ph.D., 1948, Columbia. Fields 1b, 2a, 6. Doc. dis. Whitehead's theory of experience (King's Crown Press, 1948). Res. Investigation of methodology in economics.
- SHAM, Donald, 900 19th St., N.W., Washington 6, D.C. (1944) U.S. Dept. of Justice, Office of Alien Property, secy., govt. serv.; b. 1904; A.B., 1927-28, Redlands; M.A., 1930, Ph.D., 1941, California. Fields 10, 7, 2. Doc. dis. U.S. postal savings system.
- SHANNON, Robert L., St. Mary's Col., Winona, Minn. (1948)
- SHAPIRO, Edward, Wayne Univ., Dept. of Econ., Detroit 1, Mich. (1944) Wayne Univ., instr., teach.; b. 1920; B.A., 1942, Toledo; 1942, Michigan; M.A., 1945, Ohio State; M.A., 1947, Harvard. Fields 7, 9, 6.
- SHAPIRO, Harold A., Trinity Univ., 3115 W. Ashby Pl., San Antonio 1, Tex. (1946)
- *SHAPIRO, Jack, 1206 E. New York Ave., Brooklyn 12, N.Y. (1947)
- SHAPIRO, Louis A., United Nations, Dept. of Econ. Affairs, Lake Success, N.Y. (1946)
- SHAPIRO, Milton, 1920 Harrison Ave., Bronx, New York 53, N.Y. (1947) Amer. Flange and Mfg. Corp., statis., bus., res.; b. 1920; B.A., 1941, City of New York; 1946-48, Columbia. Fields 11b, 3a, 17d. Res. History of steel barrel industry.
- *SHAPIRO, Milton M., 100 Woodruff Ave., Brooklyn 25, N.Y. (1947) New School for Soc. Res., student, res.; b. 1917; B.A., 1943, Brooklyn Col.; 1947-48, New School for Soc. Res. Fields 10, 1a, 9. Pub. Great inflations of the world (Scherman Found., 1947); Guide to postwar marketing of imports (World Trade Found. of Amer., 1947). Res. Turkey: transition to industrialization (doc. dis.).
- SHAPIRO, Sherman, 216-34 Sawyer Ave., Queens Village 8, N.Y. (1948)
- SHAPIRO, Solomon, 2714 30th St., Washington 20, D.C. (1939) U.S. Dept. of Labor, Bur. of Labor Statis., econ., govt. serv.; b. 1910; B.B.A., 1932, City of New York; M.A., 1941, American. Fields 16, 7, 14. Pub. "Distribution of deposits and currency in U.S., 1929-39," Jour. of Amer. Statis. Asso., Dec., 1943; "Income in the South," Monthly Labor Rev., Oct., 1946; "Social security in the South," in Labor in the South (Labor Dept. Bul. 898, 1947).
- SHARFMAN, Isaac L., Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1914) Univ. of Michigan, dept. head, prof., teach., res., govt. serv.; b. 1886; A.B., 1907, LL.B., 1910, Harvard. Fields 12, 13, 16. Pub. American railroad problem (Century Co., 1921); Interstate Commerce Commission (Commonwealth Fund, 1931-37); "Trade association movement," A.E.R., 1926. Res. Public control of labor relations. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.
- SHARFMAN, Saul, 150 Grove St., Worcester, Mass. (1946)
- SHARKEY, William Kenneth, Purdue Univ., Dept. of Econ., West Lafayette, Ind. (1947)
- SHARMA, B. R., 72, Triparaaswar (Panchakuti), Kathmandu, Nepal, India. (1947)
- SHARP, Luther, Great Nat. Life Bldg., Dallas, Tex. (1941)
- SHARRON, Arthur O., 1430 Saratoga Ave., N.E., Washington 18, D.C. (1945) Int. Monetary Fund, econ., res.; b. 1918; B.S., 1939, City of New York; M.A., 1945, American. Fields 10, 12b, 2b. Res. External position of United Kingdom (doc. dis., American Univ.).
- SHATTUCK, Leroy A., Jr., 5604 Third Ave., Verona, Pa. (1942) Univ. of Pittsburgh, asso. prof., teach.; A.B., 1935, Dartmouth; Ph.D., 1938, Johns Hopkins. Field 8ab. Doc. dis. Municipal indebtedness: study of debt-to-property ratio (Johns Hopkins Press, 1940). Res. Business finance.
- SHAULIS, Lloyd Lorenzo, General Aniline and Film Corp., 230 Park Ave., New York 17, N.Y. (1931) General Aniline and Film Corp., econ., res., bus.; b. 1891; A.B., 1915, M.B.A., 1921, M.A., 1922, Harvard. Fields 1, 11, 8.
- SHAVELL, Henry, 1807 Varnum St., N.W., Washington 11, D.C. (1948) SCAP, Fin. Div., Econ. and Scientific Sec., Taxation Unit, chief, govt. serv., res.; b. 1918; A.B., 1941, George Washington; 1945, Illinois. Fields 9, 5, 10. Pub. "Postwar taxation in Japan," J.P.E., Apr., 1948; "Price deflators for consumer commodities and capital equipment, 1929-42," Survey of Cur. Bus., May, 1943; "Taxation reform in occupied Japan," Nat. Tax Asso. Jour., June, 1948. Res. Fiscal policy in Japan, 1945-48.
- SHAW, Arch Wilkinson, 135 S. La Salle St., Chicago 3, Ill. (1910) Shaw & Co., pres., bus.; b. 1876; 1910-11, Harvard; A.M., 1914, Olivet Col.; LL.D., 1927, Northwestern. Fields 6, 1a, 2a. Pub. Some problems in market distribution (1912), An approach to business problems (1916) (Harvard Univ. Press); Individual and postwar period (R. R. Donnelly & Sons Co., 1946). Dir. W.W. in Amer.
- *SHAW, Albert, Winter Park, Fla. (1886)
- SHAW, Alejandro E., Charcas 662, Buenos Aires, Argentina, S. Amer. (1943)
- SHAW, Edward S., Dept. of Econ., Stanford University, Calif. (1942)
- SHAW, Ernest Ray, 20 Exchange Pl., New York 5, N.Y. (1922) Lionel D. Edie & Co., treas., bus.; b. 1900; A.B., 1922, Cornell Univ.; M.A.,

- 1924, Illinois; Ph.D., 1930, Chicago. Fields 8b, 6, 7. Doc. dis. Investment policy of commercial banks.
- SHAW, Fayette Baldwin**, 64 E. Lake St., Chicago 1, Ill. (1940) De Paul Univ., Col. of Com., teach.; b. 1903; B.S., 1926, Illinois; A.M., 1928, Ph.D., 1936, Harvard. Fields 13, 2, 8b.
- SHAW, Harry F. R.**, 204 Tuck Hall, Hanover, N.H. (1925) Dartmouth Col., prof., teach.; b. 1898; B.A., 1921, M.A., 1922, Univ. of Toronto; 1923-24, London School of Econ. Fields 2a, 4a, 1a. Res. Economic history.
- SHAW, W. Lawrence**, 800 Buchanan St., Albany 6, Calif. (1945) Western Regional Res. Lab. (U.S. Dept. of Agric., Bur. of Agric. and Ind. Chem.), econ., govt. serv., res.; b. 1906; B.A., 1928, Pomona Col.; M.A., 1934, Claremont Col. Fields 14a, 15d, 3a. Res. "Chemurgic" developments.
- SHAW, William Howard**, 807 Crescent Dr., Alexandria, Va. (1940) U.S. Dept. of Com., Office of Secy., asst., program planning officer, govt. serv., res.; b. 1909; A.B., 1930, A.M., 1931, Ph.D., 1948, Columbia. Fields 5, 14b, 2a. Doc. dis. Value of commodity output since 1869 (Nat. Bur. of Econ. Res., 1947). Pub. "Gross flow of finished commodities and new construction," Apr., 1942, "Consumption expenditures, 1929-43," June, 1944, Survey of Cur. Bus.
- SHAY, Robert Paul**, 7 Raleigh Ct., Charlottesville, Va. (1943) Univ. of Virginia, instr., teach., res.; b. 1922; B.S., 1944, M.A., 1946, Virginia. Fields 7, 9, 5. Res. Evaluation of effectiveness of Regulation W as selective device for control of credit.
- SHEA, J. Whitney**, Houghton Col., Houghton, N.Y. (1938)
- SHEA, John Leo**, 2001 Main St., Buffalo 8, N.Y. (1940) Canisius Col., prof. of econ., dept. head, teach.; b. 1903; A.B., 1927, M.A., 1928, Boston Col.; S.T.L., 1935, Woodstock Col.; B.Sc. (Econ.), 1939, London School of Econ. Fields 1a, 4a. Pub. Christian living in our economic world (Sadlier, N.Y.). Dir. W.W. in East.
- *SHEARER, Warren W.**, 707 Perimeter Rd., Harvardens Village, Ft. Devens, Mass. (1940)
- SHEEHAN, John Harold**, 426 Marquette Ave., South Bend 17, Ind. (1939) Univ. of Notre Dame, Dept. of Econ., dept. head, asso. prof., teach., res.; b. 1902; A.B., 1937, M.A., 1938, Notre Dame; 1939-40, Wisconsin. Fields 1b, 17d, 10. Pub. "War and economics," Rev. of Politics, Jan., 1942; "Labor-facts and myths," America, June 30, July 7, 1945; "Economist's comment on philosophical-economic relationships," Rev. of Soc. Econ., May, 1946. Dir. W.W. in Amer., Who Knows--and What.
- SHEFTAL, Harry Bernard**, 2710 29th St., S.E., Washington, D.C. (1947) Fed. Works Agency, Office of Econ. Res., acting dir., govt. serv.; b. 1906; A.B., 1927, Clark Univ.; M.A., 1944, American. Fields 14b, 16, 15e. Res. Extent, type, and geographic distribution of public construction awards; necessity for advance planning of public works.
- SHEFVELAND, Oliver E.**, 219 Manitou, Northfield, Minn. (1943) St. Olaf Col., prof., teach.; B.A., 1916, St. Olaf Col.; M.B.A., 1927, Northwestern; Ph.D., 1937, Iowa. Fields 11b, 8a. Doc. dis. Economics of Theodore Roosevelt. Dir. Dir. of Schol.
- *SHEIFER, Victor Jack**, 34 Monroe St., New York 2, N.Y. (1948) New York Univ., student; b. 1926; A.B., 1947, 1947-48, New York. Fields 16, 17b, 6. Res. Analysis of legal status of labor arbitration.
- SHEINWOLD, Philip**, 89-19 217th St., Queens Village, Queens 8, N.Y. (1948) Brooklyn Col., instr., teach.; b. 1906; A.B., 1929, City of New York; M.A., 1934, Columbia; 1947-48, New York. Fields 7, 16, 15.
- SHELTON, Darius W.**, Box 5405, T. C. Sta., Denton, Tex. (1947)
- SHELTON, Henry Wood**, P.O. Box 48, La Jolla, Calif. (1916) Consult. in mgt., bus. res.; b. 1883; A.B., 1904, Yale. Fields 11a, 16, 17. Pub. "Mutual rating," 1920, "Principles of storage," 1919, Bul. of Taylor Soc. Res. Mutual or group ratings of personality traits in industry, education, and government.
- SHELTON, William Arthur**, 3211 Tennyson St., N.W., Washington, D.C. (1919)
- SHELTON, William Chastain**, 3527 Center St., N.W., Washington 10, D.C. (1946) U.S. Dept. of Com., Office of Bus. Econ., prin. econ. anal., govt. serv.; b. 1916; A.B., 1936, Princeton; 1937-38, Chicago. Fields 6, 5, 3c. Pub. "Revised estimates of sales of retail stores," Survey of Cur. Bus., Nov., 1943. Res. Demand for tractors and other farm equipment.
- SHENEFIELD, Hale T.**, 3136 Newark St., N.W., Washington 8, D.C. (1941)
- SHEPARD, Dwight C., Jr.**, 2473 Edgerton Rd., Cleveland 18, Ohio. (1947)
- SHEPARD, E(ari) Fenton**, 3448 S. Wakefield St., Arlington, Va. (1940)
- SHEPARD, John F.**, Harcourt, Brace & Co., 383 Madison Ave., New York 17, N.Y. (1948)
- SHEPARD, Geoffrey Seddon**, Iowa State Col., Econ. and Soc. Dept., Ames, Iowa. (1931) Iowa State Col., prof., res., teach., edit., govt. serv.; b. 1898; B.S.A., 1924, Univ. of Saskatchewan; M.S., 1925, Iowa State Col.; Ph.D., 1932, Harvard. Fields 15b, 3b, 12b. Doc. dis. Corn and hog price stabilization. Pub. Marketing farm products (1946), Agricultural price policy (1947), Agricultural price analysis (1947) (Iowa State Col. Press). Res. Agricultural price policy; marketing livestock by carcass weight and grade; marketing dairy products; industrial alcohol from farm products. Dir. Dir. of Schol., Lead. in Educa.
- SHEPHERD, George C., Jr.**, 532 20th St., N.W., Apt. 215, Washington, D.C. (1940)
- SHEPHERD, Henry Longdon**, 93 Elm St., Hartford 6, Conn. (1935) Hews and Await, partner, lawyer; b. 1907; A.B., 1927, Texas Christian Univ.; M.A., 1929, Ph.D., 1932, Princeton. Fields 9, 12b, 4b. Doc. dis. Monetary experience of Belgium, 1914-35 (Princeton Univ. Press, 1936). Pub. Readjustment of Argentine foreign debt, 1890-1907 (Govt. Prtg. Office, 1934); "Brotherhood of man in atomic age," Anglican Theol. Rev., 1946. Res. Economics for Christians and Jews.
- SHEPARD, Ernest James**, 535 Hayes St., West Lafayette, Ind. (1926)
- SHEPPARD, Reginald Charles Stewart**, 52-28 Redfield St., Douglaston, L.I., N.Y. (1945)
- SHERE, Louis**, 3000 39th St., N.W., Washington 16, D.C. (1945)
- SHERMAN, William Roderick**, Hillsdale Col., Hillsdale, Mich. (1923)
- SHERR, Harry**, 315 Livingston Ter., S.E., Washington 20, D.C. (1943) U.S. Dept. of Agric., Bur. of Agric. Econ., agric. econ. statis., govt. serv.; b. 1916; B.B.A., 1939, City of New York; 1940-42, 1947-48, American; 1945-46, U.S. Dept. of Agric. Grad. School. Fields 17d, 15bd, 3a.
- SHERARD, Alfred**, 418 S. Lee St., Alexandria, Va. (1942) Fed. Res. Bd., econ., govt. serv.; b. 1915; S.B., 1937, Harvard; 1937-38, Chicago; M.A., 1939, Columbia. Fields 1, 5, 7.
- *SHERARD, Edith Hyslop (Mrs. Alfred)**, 418 S. Lee St., Alexandria, Va. (1948) Amer. Assn. of Univ. Women, soc. studies asso.; b. 1916; B.A., 1937, Mount Holyoke Col.; M.A., 1938, Columbia; 1938-39, Bryn Mawr Col. Fields 2a, 4a, 1a.
- SHERRINGTON, Charles Ely Rose**, Railway Res. Serv., 4 Cowley St., Westminster, London, S.W. 1, England. (1923)
- SHIDLER, Ernest Hugh**, Univ. of Illinois, Galesburg Div., Galesburg, Ill. (1947) Univ. of Illinois, Div. of Com. and Bus. Admin., dept. head, teach., res.; b. 1891; A.B., 1915, Ottawa Univ.; M.A., 1917, Chicago; 1921, Wisconsin; Ph.D., 1927, Chicago. Fields 10, 15b, 6. Doc. dis. The chain store. Pub. Group life and social problems (Holt, 1929); "Business center as institution," Jour. of Applied Soc., Mar.-Apr., 1925; "An individualization program," Jour. of Higher Educa., Feb., 1934. Dir. W.W. in Amer.
- SHIELDS, D(avid) Murray**, 16 Hewlett Lane, Great Neck, N.Y. (1925) Bank of the Manhattan

- Co., vice-pres., dept. head, res.; b. 1902; B.B.A., 1925, Texas. Fields 6, 8ab, 9. Pub. Prosperity—we can have it if we want it (with D. B. Woodward) (McGraw-Hill); "We are nearing end of bull market in bonds," Com. and Fin. Chron., Feb., 1946; "A measure of purchasing power inflation and deflation," Jour. of Amer. Statist. Asso. Dir. W.W. in Amer.
- SHIELDS, Harold Gustav**, 222 N. Western Ave., Carpentersville, Ill. (1946) Univ. of Chicago, School of Bus., asso. prof. of bus. educa., teach., res.; b. 1900; B.Ed., 1924, Illinois State Normal Univ.; Ed.D., 1934, Harvard. Fields 17d, 11a. Doc. dis. Junior college business education (Univ. of Chicago Press, 1936). Pub. Business-economic problems (with W. H. Wilson) (1935), Consumer-economic problems (with W. H. Wilson) (1945) (South Western). Res. Standards in secondary business education. Dir. Dir. of Schol., Lead. in Educa.
- SHIELDS, Murray William**, 147 Florida Ct., Gainesville, Fla. (1946) Univ. of Florida, asso. prof. of econ., teach.; b. 1898; B.A., 1921, M.A., 1925, Utah; Ph.D., 1934, Univ. of Washington. Fields 10, 7, 9. Doc. dis. Flexible tariffs in U.S.
- SHIELDS, Thomas Keeler**, 3021 E. Second St., Long Beach 3, Calif. (1940) City of Los Angeles, Bur. of Budget and Efficiency, admin. anal., govt. serv., res.; b. 1918; A.B., 1939, Redlands; 1939-40, American; 1947-48, Southern California. Fields 9, 12b, 11a.
- SHIH, Constant Chung-Tse**, Interim Com. for Int. Trade Org., Palais des Nations, Geneva, Switzerland. (1946) Interim Com., I.T.O., res. officer, res.; b. 1915; B.Sc. (Econ.), 1947, Univ. of London; B.A. (Econ.), 1947, Univ. of Manchester. Fields 10, 1a, 6. Res. History of international trade regulation and organization (doc. dis., London Univ.).
- SHILLAND, Peter David**, 520 Rotary St., Morgantown, W.Va. (1948) West Virginia Univ., asso. prof., teach., res., bus.; b. 1909; B.A., 1932, M.A., 1935, Columbia; Ph.D., 1939, New York. Fields 16, 7, 11a. Doc. dis. Origin and introduction of collective bargaining in labor relations in U.S. Pub. "Teaching of economics," A.E.R., June, 1940. Res. Nature and extent of disqualification under state unemployment insurance by reason of receipt of benefits under Title II of Social Security Act.
- SHIRLEY, Robert Vernon**, 3900 Hamilton Ave., Apt. J-1, Hyattsville, Md. (1942) Atty. and coun. at law, dept. head, bus., teach., govt. serv., res.; b. 1902; 1922-23, Rice Inst.; 1924, Southern Methodist; B.B.A., M.B.A., 1928, Texas; 1939, Chicago. Fields 12, 10, 8ab. Pub. Constitutional and legal issues in private and public administration of petroleum production and commerce (1938); Analysis of international commodity agreements in terms of cartel and monopoly aspects in American law (1947). Res. Some relations of economic and military security in Foreign Assistance Act of 1948. Dir. Int. W.W.
- SHIRVEN, Maynard N.**, CSD, Govt. Sec., GHQ, SCAP, APO 500, c/o Postmaster, San Francisco, Calif. (1941)
- SHISHKIN, Boris Basil**, 901 Massachusetts Ave., N.W., Washington 1, D.C. (1947)
- SHISKIN, Julius**, 4215 Russell Ave., Mt. Rainier, Md. (1937) U.S. Dept. of Com., Bur. of Census, Ind. Div., Econ. Plan. and Anal. Sec., chief, govt. serv.; b. 1912; A.B., 1934, A.M., 1936, Rutgers; 1937, 1938, Columbia. Fields 14, 6, 1. Pub. "A new multiplicative seasonal index," Jour. of Amer. Statist. Asso., Dec., 1942; Appraisal of WPB material supply estimates (Plan. Div. Doc. 23, 1945), Effect of war on industrial economy (Plan. Div. Doc. 27, 1945) (WPB).
- SHISTER, Joseph**, 333 Cedar St., New Haven 11, Conn. (1945) Yale Univ., asst. prof., res. asso., teach.; b. 1917; B.S., 1939, Montreal; A.M., 1941, Ph.D., 1943, Harvard. Fields 16, 6, 1a. Doc. dis. Some aspects of union wage policies. Pub. Insights into labor issues (with R. A. Lester, ed.) (Macmillan, 1948); "Theory of union wage rigidity," 1943, "Locus of union control in collective bargaining," 1946, Q.J.E. Res. Relationship of wage determination to labor market structure. Dir. W.W. in New England.
- SHLAKMAN, Vera**, 195 Hicks St., Brooklyn 2, N.Y. (1938) Queens Coll., asst. prof., teach.; b. 1909; B.A., 1930, M.A., 1931, McGill Univ.; Ph.D., 1938, Columbia. Fields 16, 2a, 17b. Doc. dis. Economic history of a factory town (Smith Coll. Studies in Hist., 1936). Pub. "Government employees," Yearbook of Amer. Labor, 1945. Res. White collar and professional unionism.
- *SHLEFSTEIN, Howard M.**, 418 S. Stanford, Albuquerque, N.M. (1948)
- *SHOHAN, Leo Bernard**, 520 E. 90th St., New York 28, N.Y. (1948)
- SHOR, Max**, 212 Oakwood St., S.E., Washington 20, D.C. (1947) Bur. of the Census, WPB, econ., govt. serv.; b. 1921; B.A., 1942, George Washington; 1946-48, American. Fields 14a, 16, 3a. Pub. "Labor relations in public utilities," Jour. of Electrical Workers, Oct., 1946; Industry studies of household furniture and softwood plywood industries (Bur. of the Census, 1946-48). Res. The 1947 Census of Manufactures; current survey studies pertaining to finished wood products.
- SHORE, Mary Louise**, 1960 Georgia Ave., Winston-Salem 5, N.C. (1937) B. 1915; A.B., 1936, Salem Coll.; 1936-37, Pennsylvania.
- SHOUP, Carl Sumner**, Columbia Univ., School of Bus., New York 27, N.Y. (1925) Columbia Univ., prof., teach., res., govt. serv.; b. 1902; A.B., 1924, Stanford; Ph.D., 1930, Columbia. Fields 9, 5, 1a. Doc. dis. Sales tax in France (Columbia Univ. Press, 1930). Pub. Principles of national income analysis (Houghton Mifflin, 1947); Facing the tax problem (co-author) (Twentieth Century Fund, 1937); Sales tax in American states (co-author) (Columbia Univ. Press, 1934). Res. Economic effects of taxation. Dir. W.W. in Amer.
- *SHUEY, Arthur Ferguson, Jr.**, 902 Prospect Ave., Shreveport, La. (1948) B. 1923; B.A., Centenary Col. of Louisiana; 1947-48, Miami Univ. Fields 2a, 15c, 4. Res. Defense of government regulation and intervention in petroleum industry.
- SHUGG, Roger W.**, Alfred A. Knopf, Inc., 501 Madison Ave., New York 22, N.Y. (1945)
- SHULGASSER, Bernard**, 166 W. 97th St., New York 25, N.Y. (1948) Mesita Tifereth Jerusalem, prof.; Lewnard Trading Co.; teach., bus.; b. 1903; B.A., 1928, Butler; Dipl. Econ., 1939, Univ. of Kaunas (Lithuania). Fields 11ab, 1a. Pub. Principles of economics (1933), Collection of English idioms (1934), Export and import trade (1934) (A. Ptasekas, Kaunas).
- SHULOFF, Emil H.**, 1078 St. Johns Pl., Brooklyn, N.Y. (1944)
- SHULTZ, Birl E.**, Swift River, Mass. (1942) Retired; b. 1883; A.B., 1909, De Pauw; M.A., 1911, Ph.D., 1916, Columbia. Fields 8ab, 11, 6. Doc. dis. History of appropriations in legislative session of 1916, New York State (Munic. Res. No. 72, 1916). Pub. Documents on initiative, referendum and recall (co-author) (Macmillan, 1912); Stock exchange procedure (N.Y. Stock Exch., 1936); Securities market and how it works (Harper, 1942).
- SHUMAN, Ronald Buswell**, Univ. of Oklahoma, Faculty Exch., Norman, Okla. (1929) Univ. of Oklahoma, prof., dept. head, teach., res.; b. 1908; B.A., 1928, Hamline; M.A., 1929, Ph.D., 1934, Minnesota. Fields 11a, 12b, 16. Doc. dis. Some aspects of commerce in Central Northwest (summary, Univ. of Minnesota, 1939). Pub. Petroleum industry, an economic survey (1940), Management of men (1943) (Univ. of Oklahoma Press); "Identification elements of advertising slogans," Southwestern Soc. Sci. Quar., Mar., 1937. Res. General management; natural gas industry.
- SHURBERG, Merwin**, 4326 Livingston Rd., S.E., Washington 20, D.C. (1943)
- SHUTE, John**, 2618 41st St., N.W., Washington 7, D.C. (1943)
- SHYBEKAY, Derso Sebeok**, P.O. Box 324, Minneapolis 1, Minn. (1943) Ind. Res. Coun. of Amer., pres., teach., res.; b. 1897; Dr. of Econ., 1918,

- LL.D., 1919, M.E., 1920, Univ. of Budapest; Ph.D., 1921, Univ. of Berlin; attended Brooklyn Col. of City of New York, Univ. of Chicago. Fields 11ab, 3a, 10. Pub. Relativity of business cycles (Rudolf Mosse & Co., Berlin); Principles of marketing and market research, Problems and solutions of world trade (Nat. Coun. of Prof. Ind. Engrs.). Res. Legal aspects of problems in foreign marketing and market research; statistical and engineering methods used in marketing and market research. Dir. W.W. in Amer., in Engineering.
- SIBLEY, Edward Carroll**, 6339 Waterman Blvd., St. Louis 5, Mo. (1948) Washington Univ., asst. prof., teach.; b. 1906; B.S., 1927, Harvard; 1927-28, Univ. of Berlin, of Heidelberg, of Paris; M.A., 1936, St. Louis; Ph.D., 1939, Andhra Univ. (India); LL.D., 1940, Los Angeles Univ. Fields 11a, 4, 10. Doc. dis. Economic boycott and plebiscite (national referendum) as instruments of war prevention. Pub. "Quartermaster Corps, J.Q.M.D., U.S. Army," Quartermaster Rev., 1943. Res. Various methods of preventing war. Dir. W.W. in Amer., in Calif., among North Amer. Authors.
- SIEFKIN, (Charles) Gordon**, School of Bus. Admin., Emory University, Ga. (1946) Emory Univ., School of Bus. Admin., dean, prof. of econ., teach.; b. 1908; B.A., 1929, Iowa; B.A., 1938, M.A., 1945, Oxford Univ.; M.A., 1945, Princeton. Fields 12a, 9, 1a.
- SIEGEL, Irving Herbert**, 5407 9th St., N.W., Washington 11, D.C. (1941) U.S. Veterans Admin., chief econ., govt. serv., res.; b. 1914; B.S., 1934, City of New York; M.A., 1935, New York; 1939-41, Columbia. Fields 3c, 17b, 5. Pub. Production, employment, and productivity in 59 manufacturing industries, 1919-36 (co-author) (WPA, Philadelphia, 1939); "Concept of productive activity," June, 1944, "Generalized ideal" index-number formula," Dec., 1945, Jour. of Amer. Statis. Asso. Res. Concept and measurement of production and productivity (doc. dis., Columbia Univ.); reabsorption and status of veterans in civilian economy, etc.
- *SIEGELMAN, Louis**, 415 S. 42nd St., Philadelphia 4, Pa. (1948) Univ. of Pennsylvania, student; b. 1920; B.S., 1942, Queens Col. Fields 3a, 7, 1a.
- SIELAFF, Richard Otto**, 2115 Sussex Ave., Duluth 3, Minn. (1946) Univ. of Minnesota, Duluth Br., Dept. of Bus. and Econ., dept. head; b. 1915; B.B.A., B.S.L., 1939, B.S. in B.E., 1941, M.B.A., 1944, Minnesota. Fields 11, 3, 1. Res. Importance of advertising in an industry operating under conditions of monopolistic competition.
- SIELAFF, Theodore John**, 215 Bedford St., S.E., Minneapolis 14, Minn. (1945) Macalester Col., asst. prof., teach.; b. 1920; B.S., 1942, M.A., 1944, 1944-48, Minnesota. Fields 15a, 11bc, 1a. Pub. "Postwar dry goods sales and stores," Jour. of Mktg., July, 1945.
- SIENKIEWICZ, Casimir A.**, 202 E. Court St., Doylestown, Pa. (1936)
- SIEVERS, Allen Morris**, Univ. of North Carolina, Woman's Col., Greensboro, N.C. (1945) Univ. of North Carolina, Woman's Col., asst. prof., teach., res.; b. 1918; B.A., 1939, Chicago; M.A., 1941, Ph.D., 1948, Columbia. Fields 1, 4, 3a. Doc. dis. Has market capitalism collapsed? A critique of Karl Polanyi's new economics.
- SIKES, Earl Ray**, 4 N. Park St., Hanover, N.H. (1925) Dartmouth Col., prof., teach., res.; b. 1895; A.B., 1915, Trinity Col. (N.C.); M.A., 1918, Pennsylvania; Ph.D., 1926, Cornell Univ. Fields 4, 1a, 9. Doc. dis. State and federal corrupt practices legislation (Duke Univ. Press, 1928). Pub. Contemporary economic systems (Holt, 1940); Introduction to social sciences (collab.) (1941), Fundamentals of social sciences (collab.) (1946) (Appleton-Century). Dir. W.W. in New England, Dir. of Schol., Lead. in Educa.
- *SILBER, Roselyn**, 201 W. 108th St., New York 25, N.Y. (1948) Nat. Bur. of Econ. Res., res. asst., res.; b. 1925; B.A., 1946, George Washington; 1946-47, American; 1947-48, Columbia. Fields 14a, 6, 5.
- *SILBERMAN, Charles Elliot**, 176 W. 87th St., New York 24, N.Y. (1947) Col. of City of New York, tutor, teach.; b. 1925; A.B., 1946, 1946-48, Columbia. Fields 2a, 12, 5.
- SILBERMAN, James M.**, 3162 Buena Vista Ter., S.E., Washington, D.C. (1946)
- SILBERNER, Edmund**, 4 Witherspoon St., Princeton, N.J. (1944) Princeton Univ., asst. prof., teach., res.; b. 1910; M.A., 1932, Hochschule für Welthandel (Vienna); Ph.D. (Econ.), 1935, Université de Genève; Dipl., 1939, Grad. Inst. for Int. Stud. (Geneva). Fields 1b, 2a, 4a. Doc. dis. L'Oeuvre économique de Cherbuliez (Librairie de l'Université, Geneva, 1935). Pub. La Guerre dans la pensée économique du XVII^e au XVIII^e siècles (Librairie du Recueil Sirey, Paris, 1939); Un manuscrit inédit de David Ricardo sur le problème monétaire (Marcel Rivière, Paris, 1940); Problem of war in nineteenth century economic thought (Princeton Univ. Press, 1946). Res. Attitude of socialist theorists towards Jewish problem, 1793-1917.
- *SILNESS, Thomas A.**, 309 N. 6th St., Grand Forks, N.D. (1948)
- SILVANIE, Haig**, 6232 Oakland Ave., St. Louis 10, Mo. (1943) St. Louis Univ., asso. prof. of econ., teach.; b. 1898; A.B., 1920, Clark Univ.; M.A., 1921, Ph.D., 1939, Columbia. Fields 1a, 10, 6. Doc. dis. Responsibility of states for acts of unsuccessful insurgent governments (Columbia Studies in Hist., Econ., and Pub. Law, 1939). Pub. "Responsibility of states for acts of insurgent governments," Amer. Jour. of Int. Law, 1939; "Problems of post-war economy," Bul. of Bur. of Econ. Res. (Brooklyn Col.), May, 1942. Res. Theory of price.
- **SILVANIE, Sarah Roche (Mrs. Haig)**, 6232 Oakland Ave., St. Louis 10, Mo. (1943) B. 1906; B.B.A., 1941, City of New York. Fields 1, 15, 2.
- SILVERSTEIN, Nathan L.**, Indiana Univ., School of Bus., Bloomington, Ind. (1928) Indiana Univ., School of Bus., asso. prof. of fin., teach., res.; b. 1904; B.A., 1928, California at Los Angeles; 1930-31, California; Ph.D., 1936, Wisconsin. Fields 8ab, 10, 7. Doc. dis. Appraisal of American devaluation policy. Pub. Corporation finance (Amer. Tech. Soc., 1948); Economic problems of war (contrib.) (Wiley, 1942); "Effects of American devaluation on prices and export trade," A.E.R., June, 1937. Res. Financing small business.
- SILVERSTRAND, Clarence F.**, 1805 N. Quebec St., Arlington, Va. (1937)
- SIMHA, S. L. N.**, Res. Officer, Reserve Bank of India, Bombay, India. (1948)
- SIMMONS, Carroll Day**, Univ. of Texas, Austin 12, Texas. (1927)
- SIMMONS, Edward Christian**, Duke Univ., Dept. of Econ., Durham, N.C. (1936) Duke Univ., asso. prof., teach., res.; b. 1909; A.B., 1931, A.M., 1932, Ph.D., 1936, Ohio State. Fields 7, 1a, 6. Doc. dis. Banking and capital accumulation, Pub. "Treasury deposits and excess reserves," 1940, "Position of Treasury bill in public debt," 1947, J.P.E.; "Selective credit control and monetary management," A.E.R., 1947. Res. Velocity of money. Dir. Dir. of Schol.
- SIMON, Matthew**, Mohawk Col., Econ. Dept., Utica, N.Y. (1947)
- SIMON, S. Fanny**, 1160 Cromwell Ave., New York, N.Y. (1935)
- SIMONDS, Rollin Head**, 1321 Washington St., Evanston, Ill. (1941) New Trier High School, teacher, dir. of safety; Nat. Safety Com., consul. in econ. res.; Illinois Inst. of Tech., Evening Div., instr.; teach., res.; b. 1910; 1928-29, Harvard; B.S., 1935, M.A., 1936, Northwestern. Fields 1a, 7, 16. Pub. "Factors in cost of industrial accidents," Proceed. of Nat. Safety Cong., 1946. Res. Development of method for estimating cost to producers attributable to industrial accidents with some results of its use (doc. dis., Northwestern).
- SIMONS, Algie Martin**, 602 N. Main St., New Martinsville, W.Va. (1925) Retired; b. 1870; B.L., 1895, Wisconsin. Fields 2, 17, 16. Pub. Social forces in American history (1911), Vision for which we fought (1919) (Macmillan); Personnel relations in industry (Ronald Press, 1921). Dir. W.W. in Amer.
- **SIMONS, May Wood (Mrs. A. M.)**, 602 N. Main St., New Martinsville, W.Va. (1941) Re-

tired; Ph.B., 1905, Chicago; Ph.D., 1930, Northwestern. Fields 1, 4, 16. Doc. dis. Economic theory in relation to industrial condition in U.S. Pub. Everyday problems in economics (Amer. Tech. Soc., 1945); Wisconsin citizens handbook (Wis. League of Women Voters, 1930). Dir. W.W. in Amer.

SIMPSON, Elizabeth Tuerk, 2510 Clarendon Rd., Brooklyn 26, N.Y. (1947) Nat. Bur. of Econ. Res., res. asst., res.; b. 1913; A.B., 1935, Barnard Coll.; A.M., 1940, George Washington; 1942-43, Columbia. Fields 8b, 7, 3a. Res. Risk premiums of corporate bonds (doc. dis., Columbia).

SIMPSON, Floyd Robert O., Univ. of Washington, Dept. of Econ., Seattle 5, Wash. (1933) Univ. of Washington, asso. prof., teach.; b. 1906; B.A., 1933, M.A., 1938, Ph.D., 1943, Minnesota. Fields 7, 13ac, 1a. Doc. dis. Monopoly building techniques, costs, prices and market structure in telephone industry. Pub. "Impact of war upon transit industry," Harvard Bus. Rev., Summer, 1945; "Cost trends in telephone industry," Jour. of Land and Pub. Util. Econ., Aug., 1945; Leading judicial interpretations on public utility regulation (John S. Swift, 1940). Res. Elementary essentials for economic analysis.

SIMPSON, John William, 628 S. 16th St., Lafayette, Ind. (1946) Purdue Univ., teach.; b. 1906; A.B., 1927, A.M., 1935, Ohio State; summers, 1939, 1940, 1941, Chicago. Fields 10, 7, 3a. Res. International economic position of Mexico (doc. dis.). Dir. W.W. in Amer. Educa.

SIMPSON, William Brand, 1149 E. 56th St., Chicago 37, Ill. (1946) Cowles Com. for Res. in Econ., asst. res. dir., dept. head, res., edit.; b. 1919; B.A., 1942, Reed Coll.; M.A., 1943, Columbia; 1946-48, Chicago. Fields 3, 1ac, 16. Res. Economic basis of labor economics.

SIMS, Lewis Burrill, Bur. of Census, Governments Div., Washington 25, D.C. (1938) Bur. of Census, Governments Div., asst. chief, govt. serv., res.; b. 1909; A.B., 1932, California at Los Angeles; M.A., 1933, California; 1933-35, Chicago; 1937-38, Harvard. Fields 9, 12b, 17. Pub. Scholarship of junior professional appointees in government service (President's Com. on Civil Serv. Improvement, 1940); "Social scientists in federal service," in Public policy (1940); "Tax yields and tax policy at state level in war-peace transition," Bul. of Nat. Tax Asso., Mar., Apr., 1946. Res. Federal careers for professional personnel. Dir. Dir. of Schol., W.W. in East, in Com. and Ind.

SINCLAIR, Solomon, 426 Niagara St., Winnipeg, Man., Canada. (1944) Univ. of Manitoba, asso. prof., teach., res.; b. 1905; B.S.A., 1932, M.S., 1937, Univ. of Saskatchewan; 1942-44, Minnesota. Fields 15abd, 4ac, 7. Pub. "Economic organization of farms in southwestern Manitoba," Econ. Annalist (Ottawa), Nov., 1947; "Farm horses in Manitoba: current trend and outlook," Agric. Inst. Rev., 1947. Res. Land use in Manitoba.

SINGER, Isidore Lyman, 1601 Dahill Rd., Brooklyn 23, N.Y. (1942) S. J. Tilden High School, instr., teach.; b. 1918; B.S. in S.S., 1940, City of New York; M.A., 1942, Brooklyn Coll.; 1942-45, New York. Fields 12, 17b, 1ab. Pub. "Silver question," June 14, 1942, "Old age insurance and related problems," Mar. 21, 1943, N.Y. Times; "Sidelights on audio-visual aids program in high school," High Points (N.Y.C. Bd. of Educa.), June, 1947. Res. Social insurance system of Mexico (doc. dis.).

SINGH, Amrit Dhari, 140 Prospect Pl., Brooklyn 17, N.Y. (1948) New School for Soc. Res., student, teach., res., govt. serv.; b. 1921; B.A., 1942, M.A., 1944, Patna Univ. (Bihar, India); M.S.S., 1948, New School for Soc. Res. Fields 9, 4, 16. Pub. "Can capitalism plan?" Indian Jour. of Econ., July, 1945. Res. Political thought of Kautilya.

SINSABAUGH, Robert Washburn, 185 W. Passaic Ave., Rutherford, N.J. (1932)

SIRKEN, Irving Arnold, Lynde Lane, Williamstown, Mass. (1947) Williams Coll., instr., teach., govt. serv.; b. 1922; B.A., 1942, M.A.,

1943, McGill Univ.; M.P.A., M.A., 1947, Harvard. Fields 10, 6, 1a.

SISKIND, David I., 2711 30th St., S.E., Washington 20, D.C. (1948) U.S. Dept. of Com., Office of Dom. Com., Construction Div., stat., res.; b. 1916; B.S.S., 1938, City of New York; M.A., 1948, George Washington. Fields 14b, 1a, 2a. Pub. "Capital expenditures in oil-well drilling industry," Jour. of Dom. Com., Aug., 1946; "New construction activity, by state, 1939-47," sup., Construction and construction materials industry report (Dep. of Com., 1948).

SISLEY, Charles D., 201 W. Fourth St., Cincinnati, Ohio. (1946)

SIVARD, Ruth Leger (Mrs. Robert), PCIRO, Palais des Nations, Geneva, Switzerland. (1947) Preparatory Com., Int. Refugee Org., Office of Statist. and Operational Anal., deputy chief, govt. serv., edit., res.; b. 1915; A.B., 1937, Smith Coll.; M.A., 1942, New York. Fields 3c, 6, 12. Pub. "Austria today—the struggle to live," Sept., 1947, "Wartime shortages and their effect on civilian industry," Apr., 1942, Dun's Rev. Res. Price inflation in postwar Europe.

SJÖBERG, Arne, Gustav III:s väg 37, Stockholm, Sweden. (1946) Swedish State Rys., chief res. econ., govt. serv., res.; b. 1910; B.A., 1940, Stockholm Univ.; M.A., 1942, Uppsala Univ. Fields 13b, 1, 12.

SKAUG, Arne, Norwegian Embassy, 3401 Massachusetts Ave., N.W., Washington 7, D.C. (1941)

SKEOCH, Lawrence A., Univ. of Toronto, Dept. of Polit. Econ., 273 Bloor St., W., Toronto, Ont., Canada. (1944)

SKINNER, Arnold Lee, P.O. Box 4464, Plaza Sta., St. Louis 1, Mo. (1946) Dept. of Com., econ., govt. serv.; b. 1909; B.B.A., 1930, 1932-33, Texas. Fields 11, 2b, 3a.

SKINNER, Josephine, Life Ins. Asso. of Amer., 165 Broadway, New York 6, N.Y. (1947)

SKINNER, Macy M., Univ. of Washington, 210 Commerce Hall, Seattle, Wash. (1921)

SKOW, Norman P., 2110 3rd St., N.E., Washington 2, D.C. (1947) Navy Dept., Bur. of Aeronautics, contract negotiator, govt. serv.; b. 1915; B.S., 1942, M.A., 1947, Minnesota. Field 14a.

SLACUM, Albert Birtcell, 120 High St., Cambridge, Md. (1945)

SLADE, Helen, 400 E. 57th St., New York, N.Y. (1923)

SLATER, J. E., Coverdale and Colpitts, 120 Wall St., New York, N.Y. (1925)

SLESINGER, Reuben Emanuel, 5419 Northumberland St., Pittsburgh 17, Pa. (1947) Univ. of Pittsburgh, asst. prof., teach.; b. 1916; B.S., 1936, M.A., 1938, Ph.D., 1940, Pittsburgh; 1938-39, Harvard; 1939, Wisconsin. Fields 1a, 12, 16. Doc. dis. Value theory and market price.

SLICHTER, Sumner Huber, Harvard Univ., 229 Littauer Center, Cambridge 38, Mass. (1920)

SLITOR, Richard Eaton, 2426 19th St., N.W., Washington 9, D.C. (1945) U.S. Treas. Dept., Div. of Tax Res., Bus. Tax Unit, acting head, econ., govt. serv., res.; b. 1911; 1928-30, Wisconsin; S.B., 1932, Harvard; M.A., 1934, Colgate; Ph.D., 1940, Harvard. Fields 9, 1, 7. Doc. dis. Some aspects of problem of excess reserves, 1930-39. Pub. "Flexibility of income tax yield under averaging," J.P.E., June, 1946; "Measurement of progressivity and built-in flexibility," Q.J.E., Feb., 1948; "Tax proposals in budget statement of Canadian Minister of Finance, June 27, 1946," Nat. Tax Asso. Bul., Oct., 1946. Res. Methods of deriving implied utility functions under income tax schedules, assuming equal sacrifice or equal proportionate sacrifice.

SLOAN, Virginia Bishop, Univ. of New Mexico, Albuquerque, N.M. (1940) Univ. of New Mexico, asst. prof., teach., res.; b. 1903; B.A., 1925, M.A., 1928, Ph.D., 1941, Texas. Fields 1ab, 16, 17bcd. Doc. dis. Social attitudes toward poverty and class distinction implied in classical economic literature. Pub. "Incentive methods of wage payments during war and reconversion periods, 1942-46," Proceed., Pacific Coast Econ. Asso., 1947. Res. Co-operative credit unions in California.

SMALL, Albert H., 4109 Russell Ave., Mt. Rainier, Md. (1947) U.S. Dept. of Com., Office of Tech. Services, econ. adviser, govt. serv.; b. 1919; B.A., 1941, Brooklyn Col.; M.A., 1948, American Fields 14a, 13b, 12a.

SMALL, Joseph T., Paine, Webber, Jackson & Curtis, 25 Broad St., New York 4, N.Y. (1936)

SMALL, Sylvia S. (Mrs. Albert H.), 4109 Russell Ave., Mt. Rainier, Md. (1947) B. 1921; B.A., 1941, Brooklyn Col. Fields 14a, 12a, 8a.

SMART, Louis Edwin, 410 King Ave., Columbus 1, Ohio. (1923) Ohio State Univ., Econ. Dept., prof.; Ohio Dept. of Taxation, Div. of Res. and Statis., dept. head; teach., res.; b. 1895; B.A., 1916, M.A., 1923, Ph.D., 1930, Ohio State. Fields 3a, 9, 2a. Doc. dis. Income taxes in various states (Gov. Com. on Tax., 1930). Pub. Practical rules for graphic presentation of business statistics (with S. Arnold) (Ohio State Univ., Bur. of Bus. Res., 1947); Tax and revenue system of state of Ohio and its political subdivisions (with C. E. Glander) (Ohio Dept. of Taxation, 1947). Res. Sales taxation in Ohio. Dir. Dir. of Schol.

SMECKER, Mary Wise (Mrs. Merlin), 5025 Baltimore Ave., Washington 16, D.C. (1947)

SMECKER, Merlin, 5025 Baltimore Ave., Washington 16, D.C. (1947)

SMEISER, David Paul, Procter & Gamble, Cincinnati 1, Ohio. (1925) Procter & Gamble, Mkt. Res. Dept., mgr., res.; b. 1894; A.B., 1912, New Windsor Col.; Ph.D., 1916, Johns Hopkins. Field 11. Doc. dis. Unemployment and American trade unions (Johns Hopkins Press, 1919).

SMIGEL, Stanley Eugene, 219 Oakwood St., S.E., Apt. 102, Washington 20, D.C. (1944) Dept. of State, For. Serv., staff officer, govt. serv.; b. 1919; B.A., 1941, Western Reserve; M.A., 1942, Ohio State; 1943-44, Chicago; 1948, American Fields 10, 14b, 6.

SMITH, Alfred Glaze, Jr., Univ. of South Carolina, Dept. of Econ., Columbia, S.C. (1941) Univ. of South Carolina, asso. prof. of econ., teach., res., bus.; b. 1913; A.B., 1934, A.M., 1939, 1941-42, Columbia. Fields 2a, 1a, 14a. Res. Location theory and development of industry in southeastern U.S. (doc. dis.).

SMITH, Arthur A., 3412 Bryn Mawr, Dallas, Tex. (1939)

SMITH, Arthur Howard, 235 Grand Ave., Rochester 9, N.Y. (1942) Bausch & Lomb Optical Co., econ., bus.; b. 1910; B.A., 1931, Rochester; M.B.A., 1933, Harvard. Fields 14a, 11b.

SMITH, Arthur Leonard, 48 Winthrop St., Brooklyn 25, N.Y. (1948) Nat. Biscuit Co., Mktg. Res. Dept., mkt. anal.-statis., res., bus.; b. 1919; B.A., 1939, M.A., 1947, Brooklyn Col.; 1943-48, Columbia. Fields 3, 11ab, 14a.

SMITH, Bernard Joseph, 3600 Beverly Dr., Dallas 5, Tex. (1946)

SMITH, Bradford Bixby, 7 Heathcote Rd., Scarsdale, N.Y. (1924) U.S. Steel Corp., econ., dept. head; b. 1899; A.B., 1919, Pomona; M.B.A., 1922, Harvard. Fields 6, 7, 4a. Pub. American individual enterprise system (co-author) (McGraw-Hill, 1946); Controlled versus uncontrolled economy (U.S. Steel, 1946); Liberty and taxes (Found. for Econ. Educa., 1947). Dir. W.W. in Amer.

SMITH, Caleb Allen, Wilmington Col., Wilmington, Ohio. (1948) Wilmington Col., Dept. of Econ. and Bus. Admin., dept. head, admin. asst. to pres., teach.; b. 1914; B.S., 1937, Haverford Col.; M.A., 1942, Ph.D., 1943, Harvard. Fields 12b, 16, 8. Doc. dis. Business behavior patterns and real national income—flow of funds analysis. Pub. "Cost-output relation for U.S. Steel Corporation," Rev. of Econ. Statis., Nov., 1941. Res. Origins and effects of corporate form of business organization.

SMITH, Carl Lewis, Clinton, Ohio. (1942)

SMITH, Cecil Nuckols, 214 Faulkner St., New Smyrna Beach, Fla. (1948) Univ. of Virginia, student; b. 1920; B.S., 1941, Virginia Poly. Inst.; M.A., 1947, Virginia. Fields 15, 10, 2.

SMITH, Charles William, 1810 Park Ave., Haleshorpe, Baltimore 27, Md. (1936) Fed. Power Com., Bur. of Accts., Fin. and Rates, chief, govt. serv.;

b. 1896; B.C.S., 1923, Southeastern; B.S., 1924, National Univ.; LL.B., 1932, Baltimore. Fields 13a, 11ac. Pub. "Prudent investment theory of public utility rate making," Acctg. Rev., July, 1946. Dir. W.W. in Amer.

SMITH, Dan Throop, Morgan Hall, Soldiers Field, Boston 63, Mass. (1928) Harvard Univ., Grad. School of Bus. Admin., prof., res., teach.; b. 1907; A.B., 1928, Stanford; 1928-29, London School of Econ.; Ph.D., 1934, Harvard. Fields 9, 7, 10. Doc. dis. Deficits and depressions (Wiley, 1936). Pub. "Profits during inflation," Mar., 1948, "Education for administration," Spring, 1945, "Tax uncertainties in corporate financing" (joint author), Spring, 1942, Harvard Bus. Rev. Res. Taxable and business income.

SMITH, Douglas B., 29 E. 602, Shanks Village, Orangeburg, N.Y. (1947)

SMITH, Earl Loran, 32 Cavanaugh Rd., Wellesley, Mass. (1939)

SMITH, Edmund Aloysius, 118 Stanfield St., South Bend 17, Ind. (1946) Univ. of Notre Dame, Col. of Com., asst. dean, asso. prof., teach.; b. 1910; A.B., 1932, St. John's Univ.; A.M., 1935, Columbia. Fields 8c, 16, 2a. Dir. Lead. in Educa.

SMITH, Edward Kershaw, Univ. of Buffalo, Dept. of Econ., Buffalo 14, N.Y. (1947) Univ. of Buffalo, instr. in econ., teach., res.; b. 1922; B.A., 1946, Hobart Col.; 1944, Pasadena Col.; 1946-48, Buffalo. Fields 9, 1a, 4ab.

SMITH, Edward Louis, 676 Riverside Dr., New York, N.Y. (1925)

SMITH, Elmer L., 3071 Seymour Ave., Cleveland 13, Ohio. (1944)

SMITH, Everett Grant, 3206 West Ave., Austin 21, Tex. (1933) Univ. of Texas, prof. of mktg., dept. head, teach.; b. 1894; B.S., 1916, Michigan State; M.B.A., 1924, Harvard. Fields 11b, 13b, 17d.

SMITH, George Albert, Jr., Harvard Univ., Grad. School of Bus. Admin., Soldiers Field, Boston, Mass. (1941)

SMITH, George Cline, Jr., U.S. Ch. of Com., 1615 H St., N.W., Washington 6, D.C. (1948) U.S. Ch. of Com., res. econ., bus., res., edit.; b. 1918; A.B., 1939, A.M., 1940, Ph.D., 1942, Washington Univ. Fields 12, 3ac, 4ab. Doc. dis. Industrial location: theory and measurement. Pub. "Lorenz curve analysis of industrial decentralization," Jour. of Amer. Statis. Ass., Dec., 1947. Res. Trend toward socialism in Europe.

SMITH, Glen R., 1136 W. North St., Decatur, Ill. (1946)

SMITH, Harlan Monell, 176 Everett Ave., Providence 6, R.I. (1942) Brown Univ., instr., teach.; b. 1914; 1932-34, Pennsylvania State Col.; A.B., 1936, A.M., 1938, Chicago; 1946-47, Harvard. Fields 7, 6, 1a.

SMITH, Hartley Le Huray, 138 Cassidy Pl., New Brighton, S.I., N.Y. (1921)

SMITH, Helen Hunter, 156-08 Riverside Dr. W., Apt. 5F, New York 32, N.Y. (1936)

SMITH, (Mrs.) Helen Mary, 9453 Burnette Ave., Detroit 4, Mich. (1947) Haskins & Sells, staff accountant, bus.; b. 1918; Dipl., 1937, Walsh Inst. of Accountancy. Fields 11c, 2a, 7.

SMITH, J. Bond, Jr., 7059 Eastern Ave., Takoma Park, Washington 12, D.C. (1944)

SMITH, Jacob G., 602 Crossett St., Syracuse, N.Y. (1903)

SMITH, John Henry, 6110 14th St., N.W., Washington 11, D.C. (1946) American Univ., Dept. of Statis., dept. head, teach., res.; b. 1904; B.A., 1935, Iowa State Teachers Col.; M.B.A., 1939, Ph.D., 1941, Chicago. Fields 3a, 1a, 11a. Doc. dis. Statistical deflation in analysis of economic series. Pub. Tests of significance: what they mean and how to use them (Jour. of Bus. Spec. Studies, 1939); "Estimation of linear functions of cell proportions," Annals of Math. Statis., June, 1947; Added column method for computing multiple correlation constants (Univ. of Chicago Bookstore, 1941).

SMITH, Joseph Earl, Youngstown Col., Youngstown, Ohio. (1927)

SMITH, Lawrence, 88 Leighton Rd., Wellesley 81, Mass. (1923) Wellesley Col., prof. of econ.,

- dept. head, teach., res.; b. 1893; B.A., 1915, Clark Col.; M.A., 1916, Clark Univ. Fields 7, 6, 2a. Pub. "England's return to gold standard in 1925," Jour. of Econ. and Bus. Hist., Feb., 1932; "Suspension of gold standard in raw material exporting countries," A.E.R., Sept., 1934; "The zloty," J.P.E., Apr., 1936. Dir. of Schol. SMITH, Lucius, 511 John St., N.W., Atlanta, Ga. (1934)
- SMITH, Nelson Lee, 2480 16th St., N.W., Washington 9, D.C. (1924) Fed. Power Com., chmn., govt. serv.; b. 1899; A.B., 1921, M.C.S., 1922, Dartmouth; Ph.D., 1928, Michigan. Fields 13, 12, 8ab. Doc. dis. Fair rate of return in public utility regulation (Houghton Mifflin, 1932). Pub. Economics (with B. W. Knight) (Ronald Press, 1929, 1930). Dir. W.W. in Amer., Int. W.W.
- SMITH, Newlin Russell, Tufts Col., Dept. of Econ., Medford 55, Mass. (1934)
- SMITH, Paul F., 804 S. Arlington-Mill Dr., Arlington, Va. (1944)
- SMITH, Philip Mason, Central Michigan Col., Mt. Pleasant, Mich. (1942) Central Michigan Col. of Educa., prof., teach.; b. 1901; B.S., 1924, Temple; Th.B., 1928, Princeton; M.Ed., 1938, Ph.D., 1942, Pittsburgh. Fields 17, 4. Doc. dis. Protestant comity in metropolitan Pittsburgh. Pub. "Protestant comity in metropolitan Pittsburgh," Amer. Soc. Rev., Aug., 1943; "Prevention of delinquency," July-Aug., 1945; "Criminality and economic factor," Jan.-Feb., 1948, Soc. and Soc. Res. Res. Employment handicaps of older workers; crime and business cycle. Dir. W.W. in Amer. Educa.
- SMITH, Pierre R., 304 West Ave., Elyria, Ohio. (1930) P. R. Smith & Co., propr., bus.; b. 1898; A.B., 1922, Oberlin. Field 8
- SMITH, Ralph Elberton, Northwestern Univ., Dept. of Econ., Evanston, Ill. (1939) Northwestern Univ., asst. prof. of econ., teach.; b. 1910; B.A., 1935, Col. of Wooster; M.A., 1946, Ph.D., 1947, Chicago. Fields 10, lab, 4b. Doc. dis. Customs valuation in U.S. Pub. Customs valuation in U.S.—study in tariff administration (Univ. of Chicago Press, 1948).
- SMITH, Robert Sidney, 6008 Col. Sta., Durham, N.C. (1935) Duke Univ., asso. prof., teach., res., edit.; b. 1904; A.B., 1927, A.M., 1928, Amherst; Ph.D., 1932, Duke. Fields 2, 10, 4. Doc. dis. Spanish guild merchant (Duke Univ. Press, 1940). Pub. "Institution of consulado in New Spain," 1944, "Sales taxes in New Spain, 1575-1770," 1948, Hispanic Amer. Hist. Rev. Res. History of guilds and commerce in colonial Latin America. Dir. Int. W.W.
- SMITH, Roy James, Univ. of California at Los Angeles, Div. of Agric. Econ., Los Angeles 24, Calif. (1939)
- SMITH, S. Granville, 428 St. James Pl., Chicago 14, Ill. (1946) Granville Smith and Associates, mgr., bus.; b. 1898; 1914, 1916-17, Tech. School, Zurich. Fields 11ab, 12, 14ac.
- SMITH, Theodore H., Montana State Univ., Missoula, Mont. (1944) Montana State Univ., School of Bus. Admin., dean; b. 1899; B.A., 1921, Heidelberg Col.; M.B.A., 1926, Northwestern; Ph.D., 1940, Ohio State. Field 11b.
- SMITH, Tucker Powell, Olivet Col., Olivet, Mich. (1947) Olivet Col., prof., teach.; b. 1898; A.B., 1921, M.A., 1922, Missouri; 1929, Columbia. Fields 16, 6, 4.
- SMITH, Tynan, Box 199, R.F.D. 1, Alexandria, Va. (1943)
- SMITH, Victor Earle, Brown Univ., Dept. of Econ., Providence 12, R.I. (1937) Brown Univ., asst. prof. of econ., teach., res.; b. 1914; A.B., 1935, M.A., 1936, Michigan State Col.; Ph.D., 1940, Northwestern. Fields 1, 3b, 12. Doc. dis. Application and critique of certain methods for determination of statistical production function for Canadian automobile industry, 1917-30 (Summaries of Doc. Dis., Northwestern Univ., 1940). Pub. "Statistical production function," Q.J.E., Aug., 1945; "Nonlinearity in relation between input and output: Canadian automobile industry, 1918-30," Econometrica, July, 1945. Res. Malthus and early English demand theory.
- SMITH, Walter Buckingham, 128 Main St., Williamstown, Mass. (1925)
- SMITH, Wendell Ross, 209 University Hall, Iowa City, Ia. (1940) State Univ. of Iowa, prof., teach., res.; b. 1911; B.S.C., 1932, M.A., 1935, Ph.D., 1941, Iowa. Fields 11b, 3c, 13a. Doc. dis. Iowa as merchandise market. Pub. Public utility economics (with C. W. Thompson) (McGraw-Hill, 1941); Applied economic analysis (with others) (Pitman, 1948).
- *SMITH, Willard Stempfli, 225A King St., Princeton, N.J. (1946) Princeton Univ., grad. asst., teach.; b. 1919; B.A., 1941, Univ. of Washington; M.A., 1948, Princeton. Fields 16, 7, 10. Res. Job evaluation.
- SMITH, William Henry, Jr., 114 Sansome St., San Francisco 4, Calif. (1948) San Francisco Employers Coun., dir. of res., res., bus.; b. 1907; B.S., 1939, M.S., 1941, California. Fields 16, 17, 1. Pub. Farm tenancy in California and methods of leasing (Univ. of California, Agric. Exp. Sta., Bul. 655, 1941); Development of tenure crises (Farm Found., 1943); Crop requirements—Eleventh Farm Credit District (U.S. Dept. of Agric., Farm Credit Admin., 1941). Res. Wage trends; unemployment insurance; health and disability plans; working conditions; labor legislation.
- SMITHIES, Arthur, Bur. of Budget, Washington, D.C. (1945)
- SMOLINSKI, Harold Joseph, Tech. Sta., Ruston, La. (1940) Louisiana Poly. Inst., prof., teach.; B.S., 1938, Northwestern State Col. of Louisiana; M.B.A., 1940, Louisiana. Field 11c.
- SMULL, Cecile Goldberg, 5403 9th St., N.W., Washington 11, D.C. (1948) Res.; b. 1923; A.B., 1943, Hunter Col.; M.S., 1944, Syracuse; 1947-48, George Washington. Fields 9, 17b, 13b. Pub. "Development of federal grant allocations," Sept., 1947, "Federal grants to states, 1945-46," June, 1947, "Variable grants in school lunch programs," Aug., 1947, Soc. Sec. Bul.
- SMYTHE, Limen Towers, South Dakota State Col., Agric. Econ. Dept., Brookings, S.D. (1940) South Dakota State Col., asst. prof., teach.; b. 1910; B.A., 1934, M.A., 1937, Univ. of Washington; 1937-41, Iowa State Col. Fields lab, 7, 17d.
- SNAVELY, Tipton Ray, Monroe Hill, University, Va. (1918)
- SNELL, Hampton Kent, Univ. of Texas, Austin 12, Tex. (1940) Univ. of Texas, prof. of transp.; consult.; teach., res., bus.; b. 1904; A.B., 1925, M.A., 1928, Wisconsin; 1926-27, West Virginia; Ph.D., 1941, Yale. Fields 13ab, 15ad, 9. Doc. dis. Fourth section of Interstate Commerce Act and its application to Pacific Coast. Pub. Inequality of taxation among several forms of transportation (1946), Air transportation (1947), chapters in Transportation in America (1947) (Asso. of Amer. Railroads). Res. Transportation principles; ten years of economic development in Southwest; program of transportation fellowships. Dir. W.W. in Amer. Educa.
- SNIDER, Delbert Arthur, Miami Univ., Dept. of Econ., Oxford, Ohio (1948) Miami Univ., asso. prof., teach., res.; b. 1914; B.A., 1936, M.A., 1937, Cincinnati; summer, 1936, Geneva School of Int. Studies; 1938-40, Chicago. Fields 10, 7, 6. Pub. "French monetary and fiscal policies since the liberation," A.E.R., June, 1948; "Movement toward freer world trade," Miami Bus. Rev., Feb., 1948.
- *SNIDER, Harold Wayne, 1713 N. Cedar, Tacoma, Wash. (1948)
- SNIDER, Joseph Lyons, Grad. School of Bus. Admin., Soldiers Field, Boston 63, Mass. (1918)
- SNYDER, Barth J., 304 Old Lane, Dayton, Ohio. (1942)
- *SNYDER, Eleanor M., 48 Flandreau Ave., New Rochelle, N.Y. (1947)
- SNYDER, Ivan V., 3964 Broadway, Indianapolis, Ind. (1937)
- SNYDER, Richard M., Thornton, Pa. (1941) E. I. du Pont de Nemours & Co., Economist's Office, res.; b. 1906; B.S. in Econ., 1928, M.A., 1941, Pennsylvania. Fields 14a, 3a, 6.

- *SOBEL, Irvin, 5652 Maryland Ave., Chicago 37, Ill. (1947).
- SOBIN, Bernard, 2194 Barnes Ave., New York 60, N.Y. (1944).
- SOGGE, Tillman M., St. Olaf Col., Northfield, Minn. (1937) St. Olaf Col., Dept. of Econ. and Soc., dept. head, teach.; b. 1903; B.A., 1924, St. Olaf Col.; M.A., 1931, Ph.D., 1936, Minnesota. Fields 16, 17, 14. Doc. dis. Age distribution and occupational changes in U.S. and their economic consequences. Pub. Seasonal irregularity of employment in Minneapolis, St. Paul and Duluth (1931), Occupational trends in Minnesota (with A. H. Hansen) (1932) (Univ. of Minnesota Press); "Industrial classes in U.S. in 1940," Jour. of Amer. Statis. Asso., Dec., 1944. Res. Japanese industrial and commodity classification problems.
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- SOLLENBERGER, Isaac J., Univ. of Oklahoma, Faculty Exch., Norman, Okla. (1926) Univ. of Oklahoma, Col. of Bus. Admin., Dept. of Fin., dept. head, prof. of fin., teach., res., bus.; B.A., 1914, Manchester Col.; M.S., 1920, Ohio State; summer, 1927, Columbia. Fields 7, 8c, 9. Pub. Nature and functions of bank credit (Univ. Lithe Pub., Norman, 1932); "Estimated cost of old age and survivors insurance, 1945," Q.J.E., May, 1945; "History of banking in Oklahoma" (co-author), Mid-Continent Bankers, May, 1947. Res. Private and/or public ways to individual and family financial security; recent developments in international finance; history of banking in Oklahoma.
- SOLOMON, Ezra, Int. House, Room 273, Univ. of Chicago, Chicago 37, Ill. (1947) Univ. of Chicago, School of Bus., instr. in fin., res., teach.; b. 1920; B.A. (Econ.), 1940, 1940-41, Univ. of Rangoon; 1947-48, Chicago. Fields 7, 8, 10. Pub. "Are formula plans what they seem to be?" Jour. of Bus. of Univ. of Chicago, Apr., 1948. Res. Interregional balance of payments of Tenth Federal Reserve District (doc. dis.).
- SOLOMON, Morris J., 1141 President St., Brooklyn 25, N.Y. (1946).
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- SOLTERER, Josef, East Falls Church, Va. (1932) Georgetown Univ., prof., dept. head; b. 1897; B.S., 1924, State Teachers Col. (Hattiesburg, Miss.); A.M., 1930, Ph.D., 1932, Georgetown. Fields 1, 3b, 4b. Doc. dis. Theories of foreign exchange. Pub. "Reflections on utility," Scientia (Milan), 1935; "A sequence of historical random events: do Jesuits die in three's?" Jour. of Amer. Statis. Asso., 1942. Res. Nature of vocational groups.
- SOMERS, Harold M., Univ. of Buffalo, Buffalo 14, N.Y. (1941) Univ. of Buffalo, School of Bus. Admin., dean, prof. of econ., teach., res.; b. 1915; B.C., 1937, Univ. of Toronto; 1940, Chicago; Ph.D., 1942, California. Fields 9, 5, 6. Doc. dis. National income: theoretical and statistical analysis. Pub. "Monetary policy and theory of interest," Q.J.E., May, 1941; "Performance of American economy," in Growth of American economy (Prentice-Hall, 1944). Res. Intergovernmental finance in U.S.
- SOMERS, Herman Miles, Haverford Col., Haverford, Pa. (1940) Haverford Col., asso. prof., dept. head, teach., res.; b. 1911; B.S. 1933, Ph.M., 1934, Wisconsin; A.M., 1944, Ph.D., 1947, Harvard. Fields 16, 17b, 4ab. Doc. dis. Co-ordinating the federal executive. Pub. "Adequacy of data in field of public aid," Jour. of Amer. Statis. Asso., Mar., 1941; "Ten delusions in need of relief," Survey Graphic, Feb., 1938; "Administration of public assistance in Massachusetts," Soc. Serv. Rev., Sept., 1938. Res. Study of American presidency. Dir. W.W. in New England.
- SOMERS, Richard H., R.F.D. 1, Dover, N.H. (1931)
- SOMMARIPA, George G., Harvard Club, 27 W. 44th St., New York 18, N.Y. (1930).
- SOMMER, Louise, Aurora Col., Aurora, Ill. (1947) Aurora Col., prof. of econ., dept. head, teach., res.; b. 1889; Dr. P. H. 1920, Univ. of Basle. Fields lab, 10, 7. Doc. dis. Die oesterreichischen Kameralisten in dogmen geschichte. Pub. Neugestaltung der Handelspolitik (Heymans, Berlin, 1935); "Pays agricoles—pays industriels—uncanthithese primée," Revue économique internationale (Brussels), 1938; "Zum Wirklichkeitschalt ökonomischer Theorien," Schweizerische Zeitschrift f. Volksk., 1947. Res. Recent trends in international commercial policy; history of economic doctrines and economic methodology.
- SONNENSCHNEIN, Hugo, Jr., 29 S. La Salle St., Chicago 3, Ill. (1946) Atty.-at-law; Lake Forest Col., instr. in econ., bus., edit., teach.; b. 1917; B.A., 1944, Lake Forest Col.; LL.B., 1941, Virginia; LL.M., 1945, John Marshall Law School. Fields 16, 13b, 8. Pub. "Binding effect of state court decree with reference to property rights affected by federal taxation," Fed. Bar Jour., Apr., 1946; "Covering the courts," Univ. of Chicago Law Rev., Autumn, 1947; "Wage-hour rulings," Nat. Provisioner, Sept. 7, 1946.
- SOONG, Eugene You-chi, 1 Wall St., Room 1232, New York 5, N.Y. (1945) Yangtze Trading Corp., econ., bus.; b. 1917; M.B.A., 1942, New York; A.M., 1944, Ph.D., 1945, Harvard. Fields 7, 10. Doc. dis. International monetary plans. Res. International Monetary Fund; international trade.
- SOPER, Goodreau, 57 Galveston St., S.W., Apt. 303, Washington 20, D.C. (1947) Bur. of the Census, admin. asst., govt. serv.; b. 1914; B.S., 1947, Kansas. Fields 11b, 12b, 8b.
- SORKIN, (Mrs.) Sylvia Aaron, Box 520, R.R. 6, Sappington 23, Mo. (1941) Washington Univ., asst. prof., teach., res.; b. 1914; B.S.B.A., 1935, M.S.B.A., 1936, Ph.D., 1941, Washington Univ. Fields 3a, 17ad, 1ac. Doc. dis. Banking theories of John Maynard Keynes and his critics.
- SORELL, Vernon G., 229 N. Dartmouth, Albuquerque, N.M. (1926) Univ. of New Mexico, Col. of Bus. Admin., dean, teach., edit., res.; b. 1897; 1917-19, Kansas; A.B., 1922, Iowa; M.A., 1924, Illinois; Ph.D., 1929, California. Fields 9, 11, 1. Doc. dis. American economic writers from Raymond to Carey. Pub. "College training and public service," New Mexico Quar., 1947; County consolidation in New Mexico (Univ. of New Mexico Press, 1934); "Taxation and governmental reorganization in New Mexico," New Mexico Bus. Rev., 1934. Dir. W.W. in West.
- SOTTO, León Enrique, Progreso No. 154 esquina a Aguacate, 7 piso, Havana, Cuba. (1945) Escuela Profesional de Comercio de la Habana, dir., prof., teach., bus.; b. 1912; Dr. en Ciencias Sociales Políticas y Económicas, 1940, Universidad Havana. Fields 7, 1ab, 10. Pub. Los Problemas Económicos de la Post-Guerra (Escuela de Comercio Havana, 1942); "Un interés de los E. U.: Finlandia," El Mundo (Havana), 1939.
- SOUDEK, Josef, 900 West End Ave., New York 25, N.Y. (1939) Queens Col., asst. prof. of econ., teach.; b. 1905; Dr. Pol. Sci., 1929, Frankfurt a. M. Fields 10, 1b, 7. Doc. dis. Social consequences of business cycles (Schroeder, Bonn, 1929). Pub. "Sociology of public finance," Archiv fuer Sozialwissenschaft, 1929; "Experiences with gold exchange standard during the depression," Die Wirtschaftskurve, 1932; "German experience with stocks and inflation," Bankers Mag., 1942. Res. Economics of lend-lease.
- SOUTHARD, Frank Allan, Jr., Cornell Univ., Dept. of Econ., Ithaca, N.Y. (1927) Cornell Univ., prof., dept. head, teach., res.; b. 1907; A.B., 1927, Pomona Col.; Ph.D., 1930, California. Fields 10, 7, 1. Doc. dis. American industry in Europe (Houghton Mifflin, 1931). Pub. Canadian-American industry (joint author) (Yale Univ. Press, 1936); Foreign exchange practice and policy (McGraw-Hill, 1940); Finances of European liberation (Kings Crown Press, 1946). Res. International finance.
- SOUTHERN, Joseph, Claflin Univ., Orangeburg,

S.C. (1947) Claflin Univ., bus. mgr., prof. of econ., dept. head, bus., teach.; b. 1919; B.S. in B.Ed., 1941, Lincoln Univ. (Mo.); M.A., 1945, Chicago. Fields 11ac, 1, 3.

SOUTHWORTH, Constant, 4000 Cathedral Ave., Washington 16, D.C. (1938) Dept. of State, Div. of Com. Policy, econ., govt. serv., res.; b. 1894; A.B., 1915, Harvard; Ph.D., 1929, Brookings. Fields 10, 12a. Doc. dis. French colonial venture (P. S. King, London, 1931). Pub. "Shall enemy property be returned—a long-term view," Amer. Polit. Sci. Rev., Feb., 1946; "Federal supervision of private forestry," Sept., 1937; "Planning in lumber industry," May, 1935, Plan Age. Dir. Dir. of Schol., W.W. in East.

SOUTHWORTH, Herman M., Coun. of Econ. Advisers, Exec. Office of Pres., Washington 25, D.C. (1942)

SOUTHWORTH, Shirley Donald, 701 Powell St., Williamsburg, Va. (1921) Col. of William and Mary, prof. of econ., teach., res., govt. serv.; b. 1894; A.B., 1920, A.M., 1921, Ph.D., 1927, Princeton. Fields 7, 1ab, 9. Doc. dis. Branch banking in U.S. (McGraw-Hill, 1928). Pub. Banking facilities for bankless towns (with J. M. Chapman) (Amer. Econ. Coun. for Study of Br. Banking, 1941).

SPAFFORD, William Franklin, 10 Conway Ct., Troy, N.Y. (1925) Rensselaer Poly. Inst., Dept. of Mgt. Engr., dept. head; b. 1894; B.A., 1915, Rochester; M.A., 1922, Columbia. Fields 16, 11a, 8a.

SPAHR, Walter Earl, 8 Michigan Rd., Bellerose 6, L.I., N.Y. (1920) New York Univ., prof., dept. head, teach.; b. 1891; A.B., 1914, Earlham Col.; summer, 1915, California; M.A., 1917, Wisconsin; Ph.D., 1925, Columbia. Fields 7, 6, 1a. Doc. dis. Clearing and collection of checks (Bankers Pub. Co., 1926). Pub. Economic principles and problems (Rinehart, 4th ed., 1940); Methods and status of scientific research (Harper, 1930); Federal Reserve System and control of credit (Macmillan, 1930). Dir. W.W. in Amer., in East, Dir. of Schol., Lead. in Educa., Author's and Writer's W.W. (London).

SPANG, Kenneth Merwin, Yale Club, Box 150, 50 Vanderbilt Ave., New York 17, N.Y. (1937) Foreign Bondholders Protective Coun., asst. to pres., econ., res., govt. serv., bus.; b. 1911; A.B., 1933, Dartmouth; M.A., 1936, Columbia; 1936-37, Cambridge Univ. (England). Fields 10, 8b, 7. Pub. "Planning integrated courses of study for economic major," A.E.R., Mar. sup., 1939; "Reconversion pricing," Amer. Mgt. Assn., 1945. Res. Wartime milk pricing in New York region (doc. dis.); governmental debts—defaults and adjustments, 1935 to date; concepts of hoarding of money. Dir. W.W. in New England, in Educa.

SPARKS, Frank Hugh, Wabash Col., Crawfordsville, Ind. (1936) Wabash Col., pres.; Noblitt-Sparks Industries, dir.; b. 1891; A.B., 1935, Butler; A.M., 1937, Ph.D., 1941, Southern California; LL.D., 1941, Butler, Hanover Col., 1947, De Pauw; LL.D., 1945, Bucknell. Fields 14a, 12a, 1ab. Doc. dis. Location of industry: analysis of some of factors which have affected location of industry in ten southern counties of California. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

SPAULDING, J. Lloyd, Bethel Col., North Newton, Kan. (1948)

SPAULDING, Mayne, Ralston, Iowa. (1946) A. Moorhouse Co., teach., bus.; B.D., 1907, Iowa Teachers Col.; B.A., 1911, Iowa. Fields 7, 6, 16.

*SPEAGLE, Richard Ernest, 227 Dickinson Hall, Princeton, N.J. (1946) Princeton Univ., instr., teach., res.; b. 1919; B.A., 1946, M.A., 1947, California at Los Angeles; 1948, Princeton. Fields 12, 14, 6. Res. Business cycles in six industrial areas.

SPENCE, Ernest John H., 251 Oxford St., Winnipeg, Man., Canada. (1947) Hudson's Bay Co., Fur Trade Dept., asst. gen. mgr., bus.; b. 1915; B.A., 1935, Univ. of Manitoba; B.Com., 1938, Queen's Univ.; M.B.A., 1939, Ph.D., 1947, Northwestern. Fields 8a, 12b, 11bc. Doc. dis. Canadian price control policy 1941 to 1947 (Wartime Prices and Trade Bd., Ottawa, 1947). Dir. W.W. in Canada.

SPENCER, Francis Auten, 2215 Payne St., Evanston, Ill. (1939)

SPENCER, Marie W., 856 E. 82nd St., Chicago 19, Ill. (1946) Illinois Inst. of Tech., instr., teach.; b. 1893; B.S., 1925, Lewis Inst., M.A., 1926, 1932, 1937, 1947, Chicago; summer, 1947, Wisconsin. Fields 13b, 2a, 16.

SPENCER, Myron Jay, 812 E. Mitchell Ave., Cincinnati 29, Ohio. (1940) Univ. of Cincinnati, lecturer on econ., teach., edit., res.; b. 1916; B.A., 1939, M.A., 1940, Cincinnati; 1940-42, Harvard. Fields 1a, 7, 16. Pub. "Government and business: a critique," A.E.R., Mar. sup., 1943.

SPENCER, Richard C., 1445 44th St., N.W., Washington 7, D.C. (1942)

SPENGLER, Edwin Harold, 114-28 177th St., St. Albans 12, N.Y. (1928) Brooklyn Col., Dept. of Econ., asso. prof., teach., res.; b. 1906; B.S., 1923, City of New York; A.M., 1928, Ph.D., 1930, Columbia. Fields 9, 1b, 15c. Doc. dis. Land values in New York in relation to transit facilities (Columbia Univ. Press, 1930). Pub. Introduction to business (with J. Klein) (McGraw-Hill, 3rd ed., 1948); Is real estate tax a benefit tax? (N.Y.S. Com. for Rev. of Tax Laws, 1932); Urban taxation (Nat. Res. Plan. Bd., 1943). Res. Survey of economic status of Brooklyn Col. graduates, 1932-48. Dir. W.W. in Western Hemisphere, in East, in Amer. Educa.

SPENGLER, Joseph John, Duke Univ., Durham, N.C. (1928)

SPERLING, Cella, 1678 55th St., Brooklyn 4, N.Y. (1943)

SPERO, Herbert, Col. of City of New York, 17 Lexington Ave., New York, N.Y. (1948)

SPETH, Conrad W., Pan American-Grace Airways, Fin. Dept., Lima, Peru, S. Amer. (1947)

SPIEGEL, David Kenneth, 390 Riverside Dr., New York 25, N.Y. (1940) Pratt Inst., School of Engr., instr. of econ., teach., bus.; b. 1918; B.S., 1939, M.A., 1940, 1940-42, New York. Fields 16, 1a, 11a. Pub. Production management syllabus (1945), Production to victory drive (1943) (Manhattan Col.); Labor problems arising from mobilization in U.S. (Univ. of Delaware, 1942). Res. Administration of minimum wage legislation in New York State (doc. dis.). Dir. W.W. in Amer. Educa.

SPIEGEL, Harold Robert, 8412 Piney Branch Ct., Silver Spring, Md. (1942) Dept. of State, Div. of Fin. Affairs, chief, govt. serv.; b. 1910; B.A., 1932, Albion Col.; M.A., 1934, Tufts Col.; 1934-35, Michigan; 1935-36, Chicago; 1938-39, Harvard. Fields 10, 7, 9. Pub. Central bank and stabilization fund (with others) (Cuban Govt. Report, Apr., 1942). Dir. W.W. in Amer.

SPIEGEL, Henry William, Catholic Univ. of Amer., Dept. of Econ., Washington 17, D.C. (1938) Catholic Univ., asso. prof., teach.; b. 1911; J.U.D., 1933, Univ. of Berlin; Ph.D., 1939, Wisconsin. Fields 1a, 10, 12. Doc. dis. Land tenure policies at home and abroad (Univ. of North Carolina Press, 1941). Pub. Economics of total war (Appleton-Century, 1942); Brazilian economy: chronic inflation and sporadic industrialization (Blakiston, 1948). Res. Current economic problems; theory of economic policy; monopoly problems; problems of industrialization.

SPIELMANS, John V., Marquette Univ., Admin. Bldg., 1217 Wisconsin Ave., Milwaukee, Wis. (1936)

*SPIETHOFF, Arthur Augustus Caspar, Marthengrafenstr. 9, Badenweiler, Baden, Germany. (1932)

SPINGARN, Edward David Woodberry, 414 Jefferson St., Alexandria, Va. (1941) Int. Monetary Fund, sr. econ., govt. serv.; b. 1911; A.B., 1933, Bowdoin Col.; A.M., 1934, Harvard; 1935-36, London School of Econ.; Ph.D., 1940, Harvard. Fields 1a, 10, 4a. Doc. dis. Equilibrium analysis and international trade.

SPIRO, Benjamin Paul, Int. Bank for Reconstruction and Development, 1818 H St., N.W., Washington 25, D.C. (1947) Int. Bank for Reconstruction and Development, Treas. Dept., End Use Supervision Sec., bus., res., govt. serv.; b. 1917; B.S., 1937, Lehranstalt Schiers (Switzerland); M.Econ., 1939, M. and D. Polit. Sci., 1941,

- Univ. of Lausanne; 1941-42, Columbia. Fields 10, 8, 7. Doc. dis. Relations entre les E. U. et la France de Munich a Juin, 1940. Res. International monetary stabilization.
- *SPIRO, Julius Bertram, 479 E. 8th St., Brooklyn 18, N.Y. (1948) Detroit Univ., instr., teach.; b. 1912; B.A., 1932, Brooklyn Col.; M.A. 1934, Columbia. Fields 10, 7, 16. Res. Competitive depreciation since departure from gold standard (doc. dis.).
- *SPITZER, Emil George 4631 49th St., N.W., Washington 16, D.C. (1944) Int. Monetary Fund, econ., res.; b. 1900; 1919-20, School of Bus. Admin. (Vienna); J.U.D., 1927, Univ. of Vienna; 1930, Bureau d'Etudes Internationales (Geneva); A.M., 1943, Harvard. Fields 10, 7, 12a. Res. Effect of synthetic production on world trade in basic raw materials (doc. dis., Harvard); monetary reform in central and eastern Europe.
- *SPLAWN, Walter Marshall William, Int. Com. Com., Washington, D.C. (1944)
- *SPRAGUE, Oliver Mitchell Wentworth, 13 Follen St., Cambridge, Mass. (1900)
- *SPRIEGEL, William Robert, 629 Haven, Evanston, Ill. (1937) Northwestern Univ., School of Com., Dept. of Mgt., dept. head, prof. of ind. mgt., teach.; b. 1893; A.B., 1914, B.S., 1915, Lebanon Univ.; M.A., 1920, Ph.D., 1935, Michigan. Fields 12a, 11a, 16. Pub. Principles of business organization (Prentice-Hall, 1946); Industrial management (Wiley, 4th ed. 1947); Personnel management (McGraw-Hill, 3rd ed. 1941). Res. Personnel practices in industry. Dir. W.W. in Amer., Dir. of Schol.
- *SPRIGGS, Darrell Leonard, Univ. of Illinois, 425 David Kinley Hall, Urbana, Ill. (1947)
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- *SPROWLS, Riley Clay, 5735 Blackstone Ave., Chicago 37, Ill. (1948) Univ. of Chicago, student, asst. in statis.; A.B., 1942, New York State Col. for Teachers; M.B.A., 1947, Chicago. Fields 3a, 1a, 6.
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- *STAEBLER, Neil, 912 N. Main St., Ann Arbor, Mich. (1933) Staebler-Kempf Oil Co., treas., bus.; b. 1905; A.B., 1926, Michigan. Fields 4ab, 10, 5. Pub. Coal: case study in planning (1939), Wheat: case study in planning (1941) (Edwards Bros.).
- *STALEY, A(vah) Eugene, 455 Seale Ave., Palo Alto, Calif. (1928) World Affairs Coun. of Northern Calif., educa. dir.; Hoover Inst. and Lib. on War, Revolution and Peace, consult.; Stanford Res. Inst., consult.; teach., res.; b. 1906; A.B., 1925, Hastings Col.; Ph.D., 1928, Chicago. Fields 10, 15d, 4a. Doc. dis. History of Illinois State Federation of Labor (Univ. of Chicago Press, 1930). Pub. World economic development: effects on advanced industrial countries (Int. Labor Office, 1944); World economy in transition (Coun. on For. Rela., 1939); War and private investor: study in interrelations of diplomacy and international investment (Doubleday-Doran, 1935). Res. International economic development problems and principles. Dir. W.W. in Amer., Int. W.W., Who Knows—and What.
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- *STAPE, Peyton, 8449 Woodcliff Ct., Silver Spring, Md. (1936)
- *STARK, Henry Walter, P.O. Box 6481, Cleveland 1, Ohio. (1946) Self-employed, bus., res.; b. 1920; B.S.B.A., 1948, Kent State Univ. Fields 11, 12, 14bc.
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- *STARK, Walter R., Loomis, Sayles & Co., 140 Federal St., Boston 10, Mass. (1920)
- *STARKWEATHER, Louis Pomeroy, 931 Oakwood Pl., Plainfield, N.J. (1934) Rutgers Univ., School of Bus. Admin., Dept. of Fin., dept. head, prof. of fin. and ins.; New York Univ., lecturer in fin.; teach., bus., res.; b. 1898; B.S., 1921, Tufts Col.; M.B.A., 1925, D.C.S., 1930, New York. Fields 8ab, 11ac. Doc. dis. Analysis of industrial securities (Ronald Press, 1930). Pub. Case studies in corporate financing (1934), Corporate reorganization and reconstruction (1940), Corporate financing and consolidation (1939) (New York Univ. Press).
- *STARNES, George Talmage, Box 1301, Univ. Sta., Charlottesville, Va. (1924)
- *STAUBUS, George Joseph, Univ. of Buffalo, Crosby Hall, Buffalo 14, N.Y. (1947) Univ. of Buffalo, teach. fellow in acctg., teach., res.; b. 1926; 1944, Park Col.; 1944-46, Miami Univ.; B.S. in B.A., 1947, Missouri; 1947-48, Chicago; 1947-48, Buffalo. Fields 11c, 7, 6. Res. Effect of stock dividends upon market price of common stocks.
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- *STAUSS, James Hartmann, Grinnell Col., Grinnell, Iowa. (1941) Grinnell Col., asso. prof. of econ., teach.; b. 1914; B.A., 1936, Grinnell; M.S., 1937, Iowa State Col.; Ph.D., 1945, Wisconsin. Fields 12, 4a, 3a. Doc. dis. The entrepreneur: the firm. Pub. "Supreme Court and architects of economic legislation," Apr., 1948, "The entrepreneur: the firm," June, 1944, J.P.E.; "Political economy of Horace Greeley," Southwestern Soc. Sci. Quar., Mar., 1939. Dir. W.W. in Educa.
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anal, govt. serv., res., teach.; b. 1918; A.B., 1940, M.A., 1943, Wayne. Fields 16, 17b, 3c.

STECKER, Margaret Loomis, 1703 New York Ave., Washington 6, D.C. (1917) Soc. Sec. Admin., soc. sci. anal., govt. serv., res., edit.; A.B., 1906, Cornell Univ.; 1906-07, School of Soc. Work (Boston); 1913-14, Wisconsin; Ph.D., 1925, Cornell Univ. Fields 17bd, 16. Doc. dis. New York agreement: unsuccessful experiment in collective bargaining (parts in Q.J.E., Feb., 1916, Feb., 1918). Pub. Intercity differences in costs of living (WPA, 1937); Unemployment benefits in U.S. (joint author) (Ind. Rela. Coun., 1930); Minimum wage legislation in Massachusetts (Nat. Ind. Conf. Bd., 1927). Res. Resources of beneficiaries of old-age and survivors insurance. Dir. Dir. of Schol.

STEELE, H. Ellsworth, 3025 W. Bancroft, Toledo 6, Ohio (1946) Univ. of Toledo, asst. prof.; b. 1918; A.B., 1940, A.M., 1941, Nebraska; Ph.D., 1947, Ohio State. Fields 16, 13a, 1a. Doc. dis. American flint glass workers union.

STEHRMAN, J. Harold, U.S. Dept. of Com., Office of Dom. Com., Washington 25, D.C. (1944) U.S. Dept. of Com., econ., govt. serv.; b. 1907; A.B., 1930, 1931-32, 1937-38, George Washington. Fields 14a, 6, 12. Pub. U.S. petroleum refining—war and postwar (1947), Confectionery sales and distribution (1942), Sales of salad dressing, mayonnaise, and related products (1943) (U.S. Dept. of Com.).

STEHRMAN, J(onas) Warren, 53 Arthur Ave., S.E., Minneapolis 14, Minn. (1916) Univ. of Minnesota, prof., teach.; b. 1887; B.A., 1909, Lebanon Valley Col.; M.A., 1910, Pennsylvania; 1913-15, Harvard; Ph.D., 1922, Chicago. Fields 8ab, 7. Doc. dis. Financial history of American Telephone and Telegraph Co. (Houghton Mifflin, 1925). Dir. Dir. of Schol.

STEIN, Emanuel, New York Univ., Washington Square Col., New York 3, N.Y. (1931) New York Univ., prof., dept. head, teach., govt. serv., edit., res.; b. 1908; B.S. 1928, A.M., 1930, Ph.D., 1933, New York. Fields 16, 15e, 8ab. Doc. dis. Housing problem in New York City. Pub. Labor problems in America (1939), Government and the investor (1941) (Rinehart); Labor cases and materials (Crofts, 1941). Res. Labor legislation. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

STEIN, Harold, 4574 Kings Highway, Brooklyn 3, N.Y. (1929)

STEIN, Herbert, 7005 Aspen Ave., Takoma Park 12, Md. (1946) Com. for Econ. Development, asso. dir. of res., res., edit.; b. 1916; A.B. 1935, Williams Col.; 1935-38, Chicago. Fields 9, 7, 6. Pub. Jobs and markets (co-author) (McGraw-Hill, 1946); Government price policy in U.S. during World War (Williams Col. Press, 1938); Plan for postwar employment (Pabst Postwar Employ. Awards, 1944). Res. Fiscal policy for economic stabilization. Dir. W.W. in Amer. (sup.).

***STEIN, Samuel J.**, 1942 Vreeland Ave., Paterson, N.J. (1948)

STEINBERG, Gunther Theodore F., 1324 Sunnyside Pl., Plainfield, N.J. (1947) Western Electric Co., econ., bus., res.; b. 1912; A.B., 1936, Iowa State Teachers Col.; M.B.A., 1938, 1938-41, Chicago. Fields 3ab, 1ac, 16. Res. Wage theory and wage practice.

STEINER, George Albert, Univ. of Illinois, 425 David Kinley Hall, Urbana, Ill. (1939) Univ. of Illinois, Col. of Com., asso. prof. of econ., teach., res., govt. serv.; b. 1912; B.S., 1933, Temple; M.A., 1934, Pennsylvania; Ph.D., 1938, Illinois. Fields 12, 8ab, 9. Doc. dis. Tax system and industrial development (Univ. of Illinois, Bur. of Bus. Res., 1938). Pub. Economic problems of defense (editor-contrib.) (Indiana Univ. Press, 1941); Economic problems of war (editor-contrib.) (Wiley, 1942). Res. Government regulation of economic activity.

***STEINER, Robert Livingston**, 710 N. Crescent Ave., Cincinnati 29, Ohio. (1948) Grandpa Brands Corp., bus., res.; b. 1923; A.B., 1947, Dartmouth; A.M., 1948, Columbia. Fields 6, 15d, 17a. Res. How

differences in culture of cities combine with economic geographic factors to retard or promote population growth; business cycle in industrial areas; relationship between rates of growth and stability in industrial areas.

STEINER, William Howard, 325 Riverside Dr., New York 25, N.Y. (1916) Brooklyn Col., dept. head, prof.; Nat. Asso. of Mutual Savings Banks, econ.; res., teach.; b. 1894; B.S., 1916, A.M., 1917, Ph.D., 1921, Columbia. Fields 7, 8ab, 10. Doc. dis. Some aspects of banking theory. Pub. Money and banking (with E. Shapiro) (Holt, rev. 1941). Dir. W.W. in Amer.

STEINHARDT, Hermann, 261 S. W. Kingston Ave., Portland 1; Ore. (1947)

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STENT, George Elliott, Natal Univ. Col., Warwick Ave., Durban, S. Africa. (1948)

STEPHAN, Audley Hobson Frederick, Rutgers Univ., Univ. Col., Dept. of Fin., New Brunswick, N.J. (1947) Rutgers Univ., asso. prof., dept. head; b. 1899; A.B., 1922, Princeton; M.A., 1935, Ph.D., 1939, Pennsylvania. Fields 9, 7, 8a. Doc. dis. Possibilities of use of cost accounting in public budget making (MacCrellish and Quigley, 1939).

STEPHAN, Frederick Franklin, 4 Chambers Ter., Princeton, N.J. (1935) Princeton Univ., prof., res., teach., govt. serv.; b. 1903; B.A., 1924, Illinois; M.A., 1926, 1926-27, 1929-30, Chicago. Fields 3ac, 17, 11. Res. Sampling; attitudes and consumer wants; education at Princeton. Dir. W.W. in Amer. (sup.).

STEPHENSON, Charles A., White Transportation Co., 15 Church St., Asheville, N.C. (1942)

STERN, Alfred Whitall, Drake Tower, 179 Lake Shore Dr., Chicago, Ill. (1920)

STERN, Boris, 5512 30th St., N.W., Washington 15, D.C. (1929) Res., govt. serv.; b. 1892; A.B., 1918, Harvard; M.A., 1923, Ph.D., 1925, Columbia. Field 16. Doc. dis. Works council movement in Germany (U.S. Bur. of Labor Statis., 1925). Pub. Labor productivity in glass industry (1927), Cargo handling and longshore labor conditions (1932), Labor productivity in rubber tire industry (1933) (U.S. Bur. of Labor Statis.).

STERN, Elaine, 117 Norfolk St., New York 2, N.Y. (1947)

STERN, Ernest Henry, 95, Gresham St., London E.C.2, England. (1946)

STETTNER, Walter Fritz, 640 Buchanan St., N.W., Washington 11, D.C. (1942) Fed. Res. Bd., econ., res.; b. 1914; Dr. jur., 1937, Univ. of Vienna; M.A., 1941, Ph.D., 1944, Harvard. Fields 9, 7, 4. Doc. dis. Nineteenth century public debt theories in Great Britain and Germany. Pub. "Sir James Steuart on public debt." Q.J.E., May, 1945; Public works and services in postwar economy (Bd. of Gov. of Fed. Res. System, 1946); "Carl Dietzel, public expenditures and public debt," in Income, employment and public policy (Norton, 1948). Dir. W.W. in Amer., in Com. and Ind.

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STEVENS, Milton S., 708 Waesche Ave., Brooklyn 29, N.Y. (1946) Time, Inc., dir. of res. project, res., teach.; b. 1917; M.A., 1940, Columbia. Fields 11b, 3a, 17d.

***STEVENS, Robert Ivan**, 160-09 Station Rd., Flushing, L.I., N.Y. (1948) Veterans' Admin., contact rep.; New York Univ., student; govt.

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- STEWART, Andrew, 67 Broad St., New York 4, N.Y. (1946)
- STEWART, Arthur David, Socony-Vacuum Oil Co., 26 Broadway, New York, N.Y. (1947)
- STEWART, Bryce Morrison, 75 Mercer Ave., Hartsdale, N.Y. (1921) Ind. Rela. Coun., dir. of res., dept. head, res., edit.; b. 1883; M.A., 1911, Queen's Univ. (Canada); Ph.D., 1926, Columbia. Fields 16, 17bc, 12b. Doc. dis. Canadian labor laws and the treaty (Columbia Univ. Press, 1926). Pub. Unemployment benefits in U.S. (with others) (1930), Profit sharing for wage earners and executives (with W. J. Couper) (1945) (Ind. Rela. Com.); Statistical procedure of public employment offices (with A. M. Stewart) (Russell Sage Found., 1933). Dir. W.W. in Amer., Dir. of Schol.
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- STEWART, Paul William, 30 Rockefeller Plaza, New York 20, N.Y. (1931) Stewart, Dougall and Associates, sr. partner, res.; b. 1899; B.S., 1923, Pittsburgh. Fields 12, 14ac, 11b. Pub. Market data handbook of U.S. (U.S. Govt., 1929); National debt and government credit (1937), Does distribution cost too much? (1939) (Twentieth Century Fund). Dir. W.W. in Amer.
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- STEWART, W(illiam) Blair, 3130 S.E. Bybee Blvd., Portland 2, Ore. (1930)
- *STIEBER, Jack, 314 8th Ave., S.E., Minneapolis 14, Minn. (1948) Ind. Rela. Center, Univ. of Minnesota, res. asst., res., teach.; B.S.S., 1940, City of New York; 1940-41, New York School of Soc. Work; 1947-48, Minnesota. Fields 16, 17b. Res. Operation and effects of Minnesota State Labor Relations Act and related statutes.
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- STILL, Richard Ralph, P.O. Box 166, Palo Alto, Calif. (1948) Stanford Univ., student; b. 1921; B.A., 1942, Idaho; 1948, Stanford. Fields 13ab, 16, 1a.
- STIMSON, Claude William, Univ. of California, Col. of Bus. Admin., Los Angeles 24, Calif. (1929) Univ. of California at Los Angeles, lecturer in law, teach.; b. 1895; 1916-17, James Millikin; A.B., 1920, L.L.B., 1944, Montana; A.M., 1923, California; Ph.D., 1932, Chicago. Fields 11, 9, 7. Doc. dis. Exemption from property tax in U.S. (summary, Minn. Law Rev., 1932). Pub. "Exemption from property tax in California," Calif. Law Rev., 1933; Economic bases for power markets in Lake

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- STINEBOWER, Leroy Dean**, Dept. of State, Washington 25, D.C. (1933) Dept. of State, deputy rep. of U.S. in Econ. and Soc. Coun. of U.N., spec. asst. to Asst. Secy. of State for Econ. Affairs, govt. serv.; b. 1904; A.B., 1926, Kalamazoo Col.; A.M., 1927, 1928, 1931-33, Chicago. Fields 10, 1a, 7. Pub. "Food as a facet in international trade," in Food for the world (Univ. of Chicago Press, 1945); Economic and Social Council (Com. to Study Org. of Peace, 1946). Dir. W.W. in Amer., in Com. and Ind., Dir. of Schol.
- STINNEFORD, Claude Laurence**, 408 College Ave., Richmond, Ind. (1928)
- STOCKER, Archibald Herbert**, Columbia Univ., School of Bus., New York 27, N.Y. (1925)
- *STOCKER, Frederick D.**, Cornell Univ., Dept. of Econ., Ithaca, N.Y. (1948)
- STOCKER, Norman Robert**, 1340 E. Grand Blvd., Detroit 11, Mich. (1943) Marygrove Col., asst. prof., teach.; b. 1917; B.S., 1938, Detroit; M.A., 1940, Georgetown; summer 1939, 1942, Wayne. Fields 1, 3, 6. Pub. "Cost of living index—its purpose and function," Soc. Justice Rev., Apr., 1944.
- *STOCKFISCH, Jacob Allen**, 2417 Carleton, Berkeley 4, Calif. (1946)
- STOCKING, Collis A.**, 3225 N. Glebe Rd., Arlington, Va. (1927)
- STOCKING, George Ward**, Vanderbilt Univ., Dept. of Econ., Nashville 4, Tenn. (1923) Vanderbilt Univ., Dept. of Econ., dept. head, prof. of econ., Inst. of Res. and Trng. in Soc. Sci., dir., res., teach.; b. 1892; B.A., 1918, Texas; M.A., 1921, Ph.D., 1925, Columbia. Fields 12, 16, 14. Doc. dis. Oil industry and competitive system (Houghton Mifflin, 1925). Pub. Potash industry, study in state control (Richard Smith, 1931); Cartels in action (with M. Watkins) (1946), Cartels or competition (with M. Watkins) (1948) (Twentieth Century Fund). Res. Study of domestic monopoly. Dir. W.W. in Amer., in Com. and Ind., Lead. in Educa.
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- STOCKTON, John Robert**, Univ. of Texas, Col. of Bus. Admin., Austin 12, Tex. (1940) Univ. of Texas, Dept. of Bus. Serv., dept. head, prof. of bus. statis., Bur. of Bus. Res., statis., teach., res.; b. 1903; B.A., 1925, Maryville Col.; M.A., 1927, Ph.D., 1932, Iowa. Fields 3ac, 6, 5. Doc. dis. Rediscount policy of Federal Reserve System, 1921-31. Pub. Introduction to business statistics (Heath, 2nd ed., 1946); Laboratory manual for business statistics, 1948-49 series (Hemphill's Book Store, Austin, 7th ed., 1948). Res. Revision of Davenport and Scott, An index to business indices. Dir. Lead. in Educa.
- STOCKWELL, Marvel Marlon**, 405 Hilgard Ave., Los Angeles, Calif. (1922)
- STOCKWELL, Richard Edgar**, 123 Melbourne Ave., S.E., Minneapolis 14, Minn. (1945) Minneapolis Star, editorial page writer, edit., res.; b. 1917; B.S., 1940, Wisconsin; M.A., 1945, Minnesota; 1945, Harvard. Fields 17, 12, 1.
- STOFLET, Ada M.**, 1701 Swann St., N.W., Washington 9, D.C. (1941)
- STOKES, Charles Junius**, Box 209, South Lancaster, Mass. (1948) Atlantic Union Col., asst. prof. of econ. and bus., dept. head, teach.; b. 1922; A.B., 1943, A.M., 1947, 1947-48, Boston Univ. Fields 2, 1ab, 11. Res. Survey of recent developments in land tenure reform in Puerto Rico (master's thesis).
- STOKES, Milton Lonsdale**, Wilson Col., Chambersburg, Pa. (1934) Wilson Col., prof., dept. head, teach.; b. 1895; B.A., 1920, M.A., 1922, LL.B., 1926, Univ. of Toronto; Ph.D., 1938, Pennsylvania. Fields 7, 13b, 8ab. Doc. dis. Development and present position of central banking in Canada. Pub. Bank of Canada (Macmillan of Canada, 1938). Res. Money and banking. Dir. Dir. of Schol.
- *STOLNITZ, George J.**, 2443 Olinville Ave., Bronx, New York 67, N.Y. (1947)
- STOLPER, Wolfgang F.**, 519 Walnut Lane, Swarthmore, Pa. (1940) Swarthmore Col., asso. prof., teach., res.; b. 1912; 1930-34, Berlin, Bonn, Zurich; M.A., 1935, Ph.D., 1938, Harvard. Fields 1a, 10, 6. Doc. dis. British monetary policy and housing boom (Q.J.E., Nov., 1941). Pub. "Protection and real wages" (with P. A. Samuelson), Rev. of Econ. Studies, Nov., 1941; "Volume of trade and level of income," Q.J.E., Feb., 1947; "Marginal productivity and social framework of economy," Schweiz. Zeitschrift für Volkswirtschaft und Statistik, 1948.
- STOLTZ, Merton Philip**, Brown Univ., Dept. of Econ., Providence 6, R.I. (1948) Brown Univ., asso. prof. of econ., teach., res.; b. 1913; B.B.A., 1934, Minnesota; A.M., 1936, Brown; Ph.D., 1941, Minnesota. Fields 3ab, 1ac, 6. Doc. dis. Use of index numbers as method of public utility valuation. Pub. Elements of statistics (with R. K. Gaumnitz) (J. Swift, Inc., St. Louis, 1939). Res. Stochastic approach to mathematical economics.
- STONE, Edmund Cushing**, 747 Valleyview Rd., Pittsburgh 16, Pa. (1947) Univ. of Pittsburgh, prof., teach.; b. 1882; A.B., 1904, B.S., 1905, Harvard. Fields 13a, 11a, 6.
- STONE, Edward**, 160 Riverside Dr., New York 24, N.Y. (1937) Nat. Ass. of Mfrs., Ind. Operations Group, dir., atty.-econ., dept. head; Amer. Inst. of Banking, N.Y. Chapter, instr.; bus., res., teach.; b. 1905; A.B., 1925, LL.B., 1927, M.A., 1931, Columbia. Fields 12b, 8, 7. Pub. New Deal legislation (1933), Contemporary legislative and banking problems (1934), Current economic trends (1935) (Amer. Bankers Ass.).
- STONE, Edward A.**, 124 S. Seventh St., Louisville 2, Ky. (1941)
- *STONE, Irving**, 3040 Cruger Ave., Bronx, New York 67, N.Y. (1947)
- STONE, J. L.**, Arkansas A. and M. Col., Dept. of Econ. and Soc., Monticello, Ark. (1945)
- STONE, Jessie K.**, 3018 W. Lehigh Ave., Philadelphia 32, Pa. (1946)
- STONE, Nahum Isaac**, 414 W. 118th St., New York 27, N.Y. (1899) Consult. econ.; Nat. Bur. of Econ. Res., dir.; b. 1873; 1893-96, Armour Inst. of Tech.; M.A., 1901, Ph.D., 1915, Columbia. Fields 14, 10, 16. Doc. dis. Wages and regularity of employment in dress industry (U.S. Bur. of Labor Statis., 1914). Pub. "Dual tariff systems," A.E.A., 1909; "Schedule K (tariff on wool and manufactures of wool)," Century Mag., 1912; "Labor efficiency in good times and bad," Amer. Mgt. Asso., 1923. Res. Tariff policy and legislation since turn of the century. Dir. W.W. in Amer., in Western Hemisphere, Dir. of Schol., Int. W.W.
- STONE, Raleigh Webster**, Univ. of Chicago, Chicago 37, Ill. (1920)
- STONE, Robert Elwin**, Syracuse Univ., Col. of Bus. Admin., Syracuse 10, N.Y. (1943) Syracuse Univ., Col. of Bus. Admin., prof., dept. head, dean, teach., res.; b. 1891; A.B., 1916, J.D., 1924, California. Fields 11, 7. Pub. Business and property law (Foundation Press, 1941); Manual of California practice (Univ. of California, School of Jurisprudence, 1938). Res. Food, drug, and cosmetic law; legal aid services. Dir. W.W. in East, in Com. and Ind., in Educa.
- STONER, Paul Matthew**, Univ. of Notre Dame, Dept. of Econ., Notre Dame, Ind. (1947)
- STONESIFER, Gilbert Ross**, Mount Union Col., Alliance, Ohio. (1946) Mount Union Col., Econ. and Bus. Admin. Dept., dept. head, asst. prof., bus., res., teach.; b. 1905; B.S., 1935, M.B.A., 1937, New York. Fields 1ab, 8b, 7. Res. Bretton Woods Agreement.
- STOVALL, Rollo Perino**, Univ. of North Carolina, Dept. of Econ., Chapel Hill, N.C. (1947) Univ. of North Carolina, asst. prof., teach.; b. 1912; B.S. in B.A., 1935, Florida; M.S., 1938, Georgetown. Fields 10, 15cd, 2b.

- STRAHL, Robert Milton**, 3340 Starr St., Lincoln, Neb. (1946) Univ. of Nebraska, asst. prof.; Gold & Co., asst. to vice-pres. in charge of operations; teach.; b. 1913; B.A., 1935, Muskingum Col.; M.B.A., 1939, Ohio State. Field 11ab. Res. Duty analysis of supervisory jobs in department stores.
- STRAIN, Robert Estey**, Iowa State Teachers Col., Cedar Falls, Iowa. (1947) Iowa State Teachers Col., instr.; teach.; b. 1915; B.A., 1937, Wichita; Ph.M., 1947, Wisconsin. Fields 16, 1a, 9. Res. Effect of collective bargaining on wage rate structures (doc. dis.).
- STRANGE, Robert H.**, Scudder, Stevens and Clark, 10 Post Office Sq., Boston, Mass. (1942)
- STRATTON, Samuel Somerville**, Middlebury Col., Middlebury, Vt. (1923) Middlebury Col., pres.; b. 1898; B.S., 1920, Dartmouth; M.A., Ph.D., 1930, Harvard; LL.D., Vermont. Fields 8, 12, 11. Pub. Economics of iron and steel industry (1939), Problems in corporation finance (1935), Financial instruments and institutions (1938) (McGraw-Hill). Dir. W.W. in Amer. Lead. in Educa.
- STRAUS, Everett M.**, 681 14th Ave., Paterson 4, N.J. (1945) Joseph Kantor & Co., res., bus.; b. 1919; A.B., 1941, Chicago; M.A., 1944, Columbia. Fields 11bc, 16, 9. Pub. "Cost accounting and statistical cost function," A.E.R., June, 1945; "Prices, income-flow and employment," Q.J.E., Aug., 1946.
- STRAUSS, William**, 3819 Dakota Ave., Cincinnati 29, Ohio. (1943)
- STRAYER, Paul Johnston**, Princeton Univ., Dept. of Econ., Princeton, N.J. (1935) Princeton Univ., asst. prof., teach., res.; b. 1912; A.B., 1933, Swarthmore; M.A., 1935, Ph.D., 1939, Columbia. Fields 9, 7, 5. Doc. dis. Taxation of small incomes (Ronald Press, 1940). Pub. "Proposal to tax small incomes," Law and Contemp. Prob., Spring, 1940; "Effect of rise in prices upon income tax," Bul. of Nat. Tax Assn., Mar., 1939; "Possibilities of state personal income tax," Tax Mag., Oct., 1938. Res. Economic and political implications of government financial policy.
- STREET, James Harry**, Haverford Col., Haverford, Pa. (1947) Haverford Col., asst. prof. of econ., teach., res.; b. 1915; B.A., 1940, M.A., 1947, Texas; 1946-48, Pennsylvania. Fields 1ab, 10, 7. Pub. "Tractor revolution," Atlantic Monthly, June, 1946; Farmers' attitudes toward use of Japanese evacuees as farm labor (Div. of Program Surveys, Bur. of Agric. Econ., 1943). Res. Relation of social psychology and anthropology to theory of economic behavior.
- STREETER, Thomas Winthrop**, Sussex Ave., Morristown, N.J. (1912)
- STRICKER, Adam Kramer, Jr.**, 1227 Bishop Rd., Grosse Pointe 30, Mich. (1938) General Motors Corp., bus.; b. 1908; S.B., 1929, M.I.T. Fields 8a, 14a, 7. Dir. W.W. in East, in Com. and Ind., in Engineering.
- STRICKLAND, Irma S. (Mrs. Maurice A.)**, 45-60 Union St., Flushing, L.I., N.Y. (1944)
- *STRICKLAND, Maurice Alexander**, 45-60 Union St., Flushing, L.I., N.Y. (1939) U.S. Pub. Health Serv., asst. surgeon, govt. serv.; b. 1910; B.S., 1935, Georgia; M.B.A., 1936, Ph.D., 1939, New York; M.D., 1948, Emory Univ. Fields 1, 16, 6.
- STRICKLER, Glen Wood**, Univ. of Arizona, Dept. of Econ., Tucson, Ariz. (1941)
- *STRINER, Herbert Edward**, 121 Mercer St., Somerville, N.J. (1948) Rutgers Univ., res.; b. 1922; A.B., M.A., 1948, Rutgers. Fields 12, 4b, 10.
- STRONG, Earl D.**, Grinnell Col., Grinnell, Iowa. (1922) Grinnell Col., dean, teach.; b. 1885; Ph.B., 1909, Grinnell; M.A., 1912, Wisconsin; Ph.D., 1940, Columbia. Fields 10, 16, 12b. Doc. dis. Amalgamated Clothing Workers (Herald-Register Pub. Co., 1940). Dir. W.W. in Amer.
- STROTZ, Robert Henry**, 1725 Orrington Ave., Evanston, Ill. (1943) Northwestern Univ., instr.; b. 1922; 1939-41, Duke; A.B., 1942, Chicago. Fields 1ac, 7, 3. Pub. Problems for economic analysis (with C. L. Allen, A. Morgner) (Prentice-Hall, 1948).
- STRUBLE, Donald Kern**, 424 E. College Ave., State College, Pa. (1947)
- *STRUCK, Stuart Hanson**, Univ. of Wisconsin, Sterling Hall, Madison 6, Wis. (1948)
- STRUVE, Louis William**, 109 W. Jenkintown Rd., Glenside, Pa. (1938) Temple Univ., instr., teach.; b. 1905; B.A., 1927, Pennsylvania State Col.; Ed.M., 1937, Temple. Fields 11c, 8, 6. Pub. "Some financial fluctuations in urban housing," Delaware Notes, 1941.
- STUBBS, Francis L.**, 705 Hitt, Columbia, Mo. (1948)
- STUCKI, Roland**, Univ. of Utah, Salt Lake City 1, Utah. (1946) Univ. of Utah, Dept. of Banking and Fin., dept. head; b. 1907; 1926-28, Dixie Jr. Col.; B.S., 1930, Brigham Young; M.S., 1932, Utah; M.B.A., 1935, Stanford; Ph.D., 1943, Cornell Univ. Fields 7, 1, 8. Doc. dis. Coal industry of Utah. Res. Money and banking. Dir. W.W. in West.
- STUDENSKI, Paul**, 290 6th Ave., New York 14, N.Y. (1930)
- STUDLEY, Jeanette Dunster**, Consumers' League of Conn., 36 Pearl St., Hartford 3, Conn. (1942) Consumers' League of Conn., exec. secy., res.; A.B., 1923, A.M., 1924, Michigan; M.S., 1925, Simmons Col. Fields 17, 16, 10.
- STUDYBAKER, Aaron D.**, R.F.D. 1, Box 49, Carmel, Calif. (1944)
- STURC, Ernest**, Int. Monetary Fund, 1818 H St., N.W., Washington 6, D.C. (1944) Int. Monetary Fund, div. chief, dept. head, res.; b. 1915; J.D., 1938, Comenius Univ.; 1939-42, Chicago. Fields 7, 10, 1a. Pub. Central and eastern Europe (McGraw-Hill, 1945).
- STURGEON, Robert R.**, 4725 Madison Ave., Indianapolis 3, Ind. (1947)
- STURGES, Dee**, Indian School Hospital, Albuquerque, N.M. (1948)
- STURMTHAL, Adolf F.**, Bard Col., Columbia Univ., Annandale on Hudson, N.Y. (1941)
- *SUAGEE, Freeman Floyd**, 663 State, Madison, Wis. (1946)
- SUBERCASEAUX, Guillermo**, Calle Merced 152, Santiago, Chile, S. Amer. (1913)
- SUBLETT, Myrick Hughes**, Box 1128, Col. Sta., Fredericksburg, Va. (1930) Mary Washington Col., asst. prof. of polit. sci., dept. head, teach.; b. 1890; A.B., 1921, Indiana State Teachers Col.; LL.B., 1925, Michigan; A.M., 1929, Ph.D., 1933, Illinois. Fields 12b, 16, 11c. Doc. dis. Legal personality of trade unions. Pub. Introduction to general and institutional accounting (Edwards Bros., 1938); "Taxation of fictitious persons," Amer. Bar Assn. Jour., Oct., 1941; "Segregation of borrowed deposits," Bankers Mag., Jan., 1935.
- SUFRLIN, Sidney Charles**, Syracuse Univ., Bus. and Econ. Res. Center, Room 107, Slocum Hall, Syracuse, N.Y. (1935) Syracuse Univ., prof. of econ. and bus. admin., Bus. and Econ. Res. Center, dir.; teach., res.; b. 1910; B.A., 1931, Pennsylvania; 1931-33, Chicago; Ph.D., 1940, Ohio State. Fields 16, 1a, 4ab. Doc. dis. An economic theory of wage and hour regulation. Pub. Wage policy and business cycle (Amer. Coun. on Pub. Affairs, 1943); "Earnings of drivers and vendors in Chicago milk industry," Monthly Labor Rev., 1941; "Effects of minimum wages," A.E.R., 1941. Res. Effects of Marshall Plan on N.Y. industry; wage differentials in N.Y.; social backgrounds of foremen.
- SUITS, Daniel B.**, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1947)
- SULLIVAN, C. Meryl**, Presidential Gardens, James Buchanan A-11, Alexandria, Va. (1948) United Mine Workers of Amer., Welfare and Retire. Fund, Death Benefits Dept., dir.; b. 1912; A.B., 1934, Harvard; M.S.F.S., 1947, 1947-48, Georgetown. Fields 17bc, 16, 4b.
- SULLIVAN, Rodman**, Univ. of Kentucky, Col. of Com., Lexington, Ky. (1930)
- *SULTAN, Paul Edward**, Cornell Univ., Goldwin Smith Hall, Dept. of Econ., Ithaca, N.Y. (1948)
- SUMBERG, Theodore Abraham**, 602 W. 190th

St., New York 33, N.Y. (1942) Inst. of World Affairs, res. consult., res.; b. 1916; B.S.S., 1939, City of New York; 1945-48, New School for Soc. Res. Fields 1, 10, 6. Pub. "Soviet Union's war budgets," A.E.R., Mar., 1946; "Financing international institutions," Soc. Res., Sept., 1946; "Menace of export subsidies," Harvard Bus. Rev., Summer, 1945. Res. Process of industrialization (doc. dis.).

SUMMER, Winifred Elaine, 1051 Pratt Blvd., Apt. 1B, Chicago 26, Ill. (1944) U.S. Railroad Retire. Bd., statis., govt. serv.; b. 1918; A.B., 1939, Mount Union Col.; 1939-40, Pittsburgh; 1940, Ohio State; 1941, American; 1942-48 (night school), Northwestern. Fields 17b, 16, 12b.

SUMNER, John Duncan, 125 Oak Grove Dr., Williamsville 21, N.Y. (1928) Teach., res., govt. serv.; b. 1904; 1922-23, Kansas State Col.; 1922-25, Wisconsin; B.S., M.B.A., 1926, Ph.D., 1931, Northwestern. Fields 10, 12, 1a. Doc. dis. Mississippi River transportation with special reference to federal barge line (partially in Jour. of Land and Pub. Util. Econ., 1931-32). Pub. "Effects of war on price policies and price making," Mar. sup., 1942, "Differential pricing in non-ferrous metals," Mar. sup., 1943, A.E.R.; "Public utility prices and business cycle: study in theory of price rigidity," Rev. of Econ. Statis., Aug., 1939. Res. Foreign lending policies of U.S. Government; aspects of monopoly pricing. Dir. Dir. of Schol., Lead. in Educa., W.W. in Com. and Ind.

SUMNER, Vance D., Box 216 F.E., College Station, Tex. (1947)

*SUNDELSON, J. Wilner, 444 Central Park W., New York, N.Y. (1946)

SUNDELSON, Janet Racolin (Mrs. J. Wilner), 444 Central Park W., New York, N.Y. (1944)

SUR, Fadil Hakki, Hukuk Fakultesi, Ankara, Turkey. (1945) Hukuk Fakultesi (Law Faculty), Dept. of Pub. Fin., dept. head, prof.; Siyasal Bilgiler Okulu (School of Polit. Sci.), Dept. of Pub. Fin., dept. head, prof.; Inst. of Econ. of Law Faculty, dir.; teach., res.; b. 1911; B.A., 1930, Int. Col. (Smyrna); M.Sc.Econ., 1933, School of Polit. Sci. (Ankara); Bachelier en Droit, 1936, Licencié en Droit, 1937, D. d'études sup. Econ., 1938, Paris Law Faculty. Fields 9, 1ab, 10. Pub. Public finance (Zerbatam, Ankara, 1943, 1946); Agricultural credit (Türkiye Matbaası, 1933); "National income and expenditure and public finance," Siyasal Bilgiler Okulu Dergisi, 1946. Res. Postwar budgetary systems and public credit.

SURANYI-UNGER, Theo Victor, Syracuse Univ., Dept. of Econ., Syracuse 10, N.Y. (1946) Syracuse Univ., Maxwell Grad. School, prof. of econ., res., teach.; b. 1898; Dr. iuris et sc. pol., 1919, Karl Univ. of Graz; Dr. phil., 1920, Peter Pázmány Univ. (Budapest); Dr. oec. publ., 1921, Palatin Joseph Univ. (Budapest). Fields 1a, 10, 3a. Doc. dis. Economic depressions (Stephanum, Budapest, 1920). Pub. Philosophie in der Volkswirtschaftslehre (Gustav Fischer, Jena, 1923-26); Economics in twentieth century (Norton, New York, Allen & Unwin, London, 1931); Weltwirtschafts politik im Entstehen (Gustav Fischer, Jena, 1933). Res. Relationship between private enterprise and collective planning.

SURFACE, Frank Macy, 1 W. 72nd St., New York, N.Y. (1923)

SURVEYER, Arthur, Dominion Square Bldg., Montreal, Que., Canada. (1936)

*SUSO, Julian C., 614 Crouse St., Akron 6, Ohio. (1948) Ohio State Univ., student; b. 1922; 1941-43, Akron; B.S. in B.A., 1947, Kent State; 1947-48, Ohio State. Fields 10, 16, 4c. Res. Argentine trade policy in the thirties.

SUSSMAN, Nathan, 56-55 205th St., Bayside, N.Y. (1948)

SUTCLIFFE, William George, 685 Commonwealth Ave., Boston, Mass. (1941)

SUTKER, Melvin, Lynwood Hall, Menomonie, Wis. (1947)

SUTTON, Glenn Wallace, 649 Ogletreth Ave., Athens, Ga. (1945) Univ. of Georgia, prof., teach., res.; b. 1904; B.S., 1926, A.M., 1927, Indiana;

Ph.D., 1938, Ohio State. Fields 7, 8ab, 1ab. Doc. dis. Monetary and banking policies of Roosevelt Administration.

SUVIRANTA, Bruno Kaarle, Vuorimiehenkatu 19, Helsinki, Finland. (1947) Univ. of Helsinki, prof. of econ., teach., res., govt. serv.; b. 1893; Ph.D., 1917, Ph.D., 1923, Univ. of Helsinki. Fields 7, 9, 1b. Doc. dis. Theory of balance of trade: study in mercantilism (Finnish Acad. of Sci., 1923). Pub. "Shiftability theory of bank liquidity," in Economic essays in honour of Gustav Cassel (1933); "War indemnities and capital levy in Finland," Index of Svenska Handelsbanken, 1941; "Finland's war indemnity," Sup. to Index of Svenska Handelsbanken, 1947. Res. Theoretical analysis of war indemnities.

SWAN, Eliot J., Fed. Res. Bank, Div. of Res., 400 Sansome, San Francisco 20, Calif. (1941)

SWANISH, Peter Theodore, 6527 Glenwood Ave., Chicago 26, Ill. (1933) Univ. of Chicago, Downtown Div., bus. lecturer, teach., govt. serv.; b. 1895; B.S.B., 1921, Minnesota; M.B.A., 1924, Northwestern; Ph.D., 1930, Chicago. Fields 11a, 16, 12b. Doc. dis. Taxation of agricultural classes in Soviet Russia. Pub. Trades disputes clause in British unemployment insurance acts (Univ. of Chicago, 1938); Probable cost of dental care under health insurance (Chicago Dental Soc., 1937).

SWANSON, Arthur Emil, 2310 Central Park Ave., Evanston, Ill. (1915)

SWANSON, Ernst W., Butler Univ., Col. of Bus. Admin., Indianapolis 7, Ind. (1940)

SWARTLEY, John Cassel, 195 Broadway, New York 7, N.Y. (1947) Amer. Tel. and Tel. Co., Econ. Studios, statis., bus., edit.; b. 1901; B.A., 1924, Lehigh. Fields 13c, 3c.

SWEENEY, Leo Andrew, 200 Franklin St., Buffalo, N.Y. (1948) N.Y. State Employ. Serv., dist. supt., govt. serv.; b. 1899; B.S., 1920, M.S., 1921, M.A., 1922, Canisius Col. Fields 17bd, 12, 16.

*SWEENEY, Timothy Dennis, 7801 Essex Ave., Chicago 49, Ill. (1948)

SWEET, Homer Newton, 80 Federal St., Boston, Mass. (1919)

SWEETSER, Albert Gibby, 160 Lincoln St., Newton Highlands 61, Mass. (1947) Wesleyan Univ., asst. prof., teach., bus., res.; b. 1915; A.B., 1937, Harvard; M.B.A., 1942, New York; 1942, Boston Univ.; 1943-48, American. Fields 13ab, 8ab, 7. Res. Finance.

SWEETZ, Alan Richardson, 5269 La Road Ave., Los Angeles 41, Calif. (1946) Williams Col., prof., teach., res.; b. 1907; A.B., 1929, Ph.D., 1934, Harvard; 1929-30, Cambridge (England); 1933-34, Univ. of Vienna. Fields 7, 6, 17a. Doc. dis. Subjective value theory. Pub. "Population growth and investment opportunity," Q.J.E., 1940; "Secular stagnation?" in Post-war economic problems, 1942; "Declining investment opportunity," in New economics, 1947.

SWEETZ, Paul Marlor, Carolfield, Wilton Centre, N.H. (1946) B. 1910; A.B., 1931, Ph.D., 1936, Harvard; 1932-33, London School of Econ. Fields 4ab, 1ab, 2a. Doc. dis. Monopoly and competition in English coal trade, 1550-1850 (Harvard Univ. Press, 1938). Pub. Theory of capitalist development (Oxford Univ. Press, 1942); "Demand under conditions of oligopoly," J.P.E., Aug., 1939. Res. Transition from feudalism to capitalism.

SWERLING, Boris C., Brown Univ., Dept. of Econ., Providence 12, R.I. (1947) Brown Univ., teach.; 1920; B.A., 1941, Univ. of Toronto; A.M., 1947, Ph.D., 1948, Harvard. Fields 12a, 10, 4a. Doc. dis. International control of sugar.

SWIATOPOLSK-MIRSKI, Michael D., Columbia Univ., 715 Hamilton Hall, New York 27, N.Y. (1945) Columbia Univ., lecturer, res., teach.; Laws Master, 1925, Univ. of Czernowitz; Dr. of Laws, Econ. and Fin. Sci., 1929, Univ. of Paris. Fields 10, 6, 1a. Doc. dis. Origins of monetary crisis in Poland (Vriu, Paris, 1929), Pub. Status of private debts during and after inflation (Vriu, Paris, 1929); "Collapse of Five Year Plan," La Svobodu (Warsaw), 1931; How shall lend-lease

accounts be settled (War Dept., 1945). Res. Soviet Union and the business cycle.

SWIFT, Harold H., Union Stock Yards, Chicago, Ill. (1924)

SWIFT, Pauline E., 12 Walnut Pk., Roxbury 19, Mass. (1941)

SYMONS, James Harold, 65 Meadow Lane, New Rochelle, N.Y. (1941)

SZATROWSKI, Zenon, Univ. of Oregon, Econ. Dept., Eugene, Ore. (1943) Univ. of Oregon, asso. prof., teach., bus. res.; b. 1914; B.S., 1936, M.A., 1937, Indiana; Ph.D., 1942, Northwestern. Fields 3, 1, 8. Doc. dis. Solutions of some integro-differential equations. Pub. "Time series correlated with beef-pork consumption ratio," *Econometrica*, Jan., 1944; "Common stock price changes versus level," 1945, "A short method for calculating geometric mean," 1946, *Jour. of Amer. Statis. Assn. Res. Price cycles and interdependent variables.*

SZOLD, Seth Lee, J. M. Dain & Co., Rand Tower, Minneapolis 2, Minn. (1947) J. M. Dain & Co., secy., dept. head, res.; b. 1909; Ph.B., 1940, Chicago. Fields 8ab, 6, 3bc.

SZÜCS, Miklos J., 1717 W. Hunting Park Ave., Philadelphia 40, Pa. (1948) C.P.A. and consult. for U.S. citizens and corporations in Hungary; Nat. Fed. of Certified Public Accountants (Budapest), instr.; bus., teach., res.; b. 1903; Dr. of Law, Peter Pazmany Univ. (Budapest). Fields 11ac, 7, 8ab. Doc. dis. Problems of canceled letters of credit. Pub. Auditing problems in Swiss banking-law (*Hites Könyvvizsgálók Lapja*, Budapest, 1936).

TABER, Edgar Francis, Jr., 61 Paradise Rd., Northampton, Mass. (1948) Smith Col., instr., teach.; b. 1917; A.B., 1938, Amherst; M.A., 1940, 1940-41, Columbia. Fields 14c, 16, 1. Res. Statistical cost function of a power laundry (doc. dis.).

TAEUSCH, Carl Fredrick, 221 N. Grand Blvd., St. Louis 3, Mo. (1929) St. Louis Univ., prof., res., teach.; b. 1889; 1907-09, Wooster Col.; Litt.B., 1914, Princeton; Ph.D., 1920, Harvard. Fields 12b, 4ab, 11a. Doc. dis. Analysis of categorical judgment. Pub. Policy and ethics in business (McGraw-Hill, 1931); "Concept of 'usury'-history of an idea," *Jour. of Hist. of Ideas*, June, 1942; "Re wages and earnings," *Int. Jour. of Ethics*, Oct., 1933. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

TAFT, Philip, 174 Irving Ave., Providence 6, R.I. (1937) Teach., res.; b. 1902; B.A., 1932, Ph.D., 1935, Wisconsin. Fields 16, 4ab. Pub. History of labor in U.S. (with S. Perlman) (Macmillan, 1935); Economics and problems of labor (Stackpole, 1942). Res. Union administration and special problems of labor unions.

TAGGART, Joseph H., Rutgers Univ., School of Bus. Admin., Newark 2, N.J. (1930)

TAGLIACCOZZO, Giorgio, 19 Barrow St., New York 14, N.Y. (1942) Columbia Broadcasting System, Radio Univ., editor; New School for Soc. Res., lecturer, edit., teach., res.; b. 1909; Ph.D. Econ., 1930, Ph.D. Polit. Sci., 1933, Rome. Fields 1ab, 4, 17b. Doc. dis. Economics and collective hedonistic maximum (C.E.D.A.M., Padova, 1933). Pub. Neopolitan economists of XVII and XVIII centuries (Cappelli, Bologna, 1937); "Croce and nature of economic science," Q.J.E., May-July, 1945; Beveridge Plan and Italian legislation on security (Bur. of Latin American Res., 1943). Res. Philosophy for economists; evolution of theory of economic policy.

TAKAHASHI, Shigeharu, NRS, GHQ, SCAP, APO 500, c/o P.M., San Francisco, Calif. (1943) NRS, GHQ, SCAP, econ., govt. serv.; b. 1921; 1940-42, California; A.B., 1943, Ohio; 1943-45, Chicago. Fields 9, 1a, 7. Res. Japanese farm taxation.

TALBOT, Homer, 1230 Hudson St., Denver 7, Colo. (1943) Ohio Nat. Life Ins. Co., dist. mgr.; Univ. of Colorado, Denver Center, extension leader; Montclair Improvement Asso., pres.; bus., teach.; b. 1886; 1905-06, Michigan; 1906-07, DePauw; A.B., 1910, Wisconsin; 1911-13, Kansas City School of Law; M.A., 1918; Kansas. Fields 9, 1a, 8c. Pub. The initiative and referendum: state

legislation (Legislative Ref. Dept., State of Wis., 1910, 1913); Postwar activities of New Jersey state council of defense (State of N.J., 1920). Res. Proposed city charter revision amendment. Denver, as to form of government and method of election of council; effects of municipal retail sales tax in Denver and proposed substitute or substitutes therefor.

TAMAGNA, Frank Marius, Bd. of Gov. of Fed. Res. System, Washington 25, D.C. (1940) Bd. of Gov. of Fed. Res. System, econ., govt. serv., res.; b. 1910; J.D., 1934, Univ. of Pavia (Italy); Ph.D., 1937, Yale. Fields 10, 7, 4a. Doc. dis. Banking and finance in China (Inst. of Pacific Rela., 1942). Pub. Italy's interests and policies in Far East (Inst. of Pacific Relations, 1940); "Fixing of foreign exchange rates," J.P.E., 1945; "Sterling in multi-lateral trade" (with J. D. Knapp), Fed. Res. Bul., 1947. Res. Exchange controls and trade restrictions in International Monetary Fund and International Trade Organization.

TAMBY, Frank J., 1541 Metropolitan Ave., New York 62, N.Y. (1934)

TANDY, W. Lou, State Teachers Col., Milwaukee 11, Wis. (1932) Milwaukee State Teachers Col., teach.; A.B., 1930, Wayne; M.A., 1931, Michigan; Ph.D., 1934, Illinois. Fields 1a, 17d, 4. Doc. dis. Economics of leisure-study in consumption.

*TANNENBAUM, Walter, 2805 24th Ave., Astoria, L.I. 2, N.Y. (1947)

TANNENBAUM, Frank, Columbia Univ., Dept. of Hist., New York, N.Y. (1925) Teach., res. Fields 2, 10, 16. Doc. dis. Mexican agrarian revolution (Brookings, 1929). Pub. Crime and community (Sin & Co., 1938); "Balance of power in society," *Polit. Sci. Quar.*, Dec., 1946; Peace by revolution (Columbia Univ. Press, 1933). Res. History of Peru; balance-of-power in society.

TANNENBAUM, Robert, Univ. of California, Col. of Bus. Admin., Los Angeles 24, Calif. (1946) Univ. of California, lecturer, teach., res.; b. 1915; A.B., 1937, M.B.A., 1938, 1939-42, 1946-48, Chicago. Fields 16, 11a, 1a. Pub. Cost under unfair practices acts (Univ. of Chicago Press, 1939); "Developments affecting cost under unfair practices acts," *Jour. of Bus.*, Apr., 1940. Res. Theory of management.

TARASOV, Helen (Mrs. H. L. Reed), 51 Houston St., Asheville, N.C. (1943) B. 1915; 1935-36, Ecole des Sciences Politiques (Paris); B.A., 1936, Western Reserve; M.A., 1937, Fletcher School of Law and Diplomacy; 1937-39, New School for Soc. Res. Fields 9, 5, 4a. Pub. Who pays the taxes? (TNEC Mono. 3, 1940); Who does pay the taxes? (Soc. Res. Sup. 4, 1942); "Family allowances: an Anglo-American contrast," *Annals of Amer. Acad.*, May, 1943.

TARBAJOVSKY, Ján, Ul. Cervené armády 4, Bratislava, Czech. (1947)

TARSHIS, Lorie, Dept. of Econ., Stanford University, Calif. (1947) Stanford Univ.; b. 1911; B. Comm. 1932, Univ. of Toronto; B.A., 1934, M.A., 1935, Ph.D., 1939, Cambridge Univ. Fields 5, 12a, 1a. Doc. dis. Determinants of labour income. Pub. Elements of economics (Houghton Mifflin, 1947); "Changes in real and money wages," *Econ. Jour.*, Mar., 1939. Res. Labor's share in national income; comparative policies.

TATOR, Samuel Wesley, 50 Morris Cove Rd., New Haven 13, Conn. (1918) U.S. Dept. of Agric., Dairy Br., dir.; Junior Col. of Com., pres.; govt. serv., teach.; b. 1886; B.S. in E., 1913, Pennsylvania. Fields 12, 11ac, 4c. Dir. W.W. in Amer.

TAUB, Edward S., 1406 G St., N.W., Washington 5, D.C. (1947) Alex Taub Associates, anal., bus., edit., res.; b. 1913; A.B., 1936, Michigan; 1946-48, George Washington. Fields 10, 15d 4b. Res. International industrialization: principles and problems.

TAUCHAR, (Mrs.) Virginia G., Univ. of Calif., 119 South Hall, Berkeley 4, Calif. (1944)

TAUS, (Mrs.) Esther Rogoff, 1916 Grand Concourse, New York 57, N.Y. (1938) Hunter Col., instr., teach.; b. 1914; B.A., 1934, Hunter; M.A., 1936, Ph.D., 1942, Columbia. Fields 7, 1a, 11c. Doc.

dis. Central banking functions of U.S. Treasury. 1789-1941 (Columbia Univ. Press, 1943). Res. Central banking functions of U.S. Treasury during World War II and postwar.

TAYLOR, Albion Guilford, 703 Powell St., Williamsburg, Va. (1928) Col. of William and Mary, prof. of polit. econ., dept. head., teach., govt. serv.; b. 1886; A.B., 1915, Des Moines; A.M., 1920, Nebraska; Ph.D., 1927, Illinois. Fields 16, 1ab, 4ab. Doc. dis. Labor policies of National Association of Manufacturers (Univ. of Illinois Press, 1928). Pub. Labor problems and labor law (Prentice-Hall, 1938). Dir. W.W. in Amer., Lead. in Educa.

TAYLOR, Alonzo Englebert, Box 3, Stanford University, Calif. (1942)

TAYLOR, Amos Elias, 1451 Jonquil St., N.W., Washington 12, D.C. (1917) American Univ., adj. prof. of econ.; U.S. Dept. of Com., Office of Bus. Econ., dir.; teach., govt. serv.; b. 1893; A.B., 1915, Gettysburg Col.; M.A., 1920, Chicago; Ph.D., 1924, Pennsylvania. Fields 10, 1, 2. Pub. Foreign investments of U.S. (U.S. Dept. of Com., 1937); "Walker's financial mission to London," Harvard Jour. of Econ. and Bus. Hist., 31. Dir. W.W. in Amer., Dir. of Schol., Int. W.W.

TAYLOR, A(rchibald) Wellington, 143 Stanmore Pl., Westfield, N.J. (1916) New York Univ., dean emeritus; N.Y.S. Ch. of Com., dir. of ed.; b. 1877; A.B., 1902, L.L.D., 1932, Doane Col.; A.M., 1910, Wisconsin; 1910-12, Chicago. Fields 8b, 1a, 13b. Dir. W.W. in Amer., Lead. in Educa., Int. W.W.

TAYLOR, Charles Theodore, 494-G Pinecrest Circle, Marietta, Ga. (1941) Fed. Res. Bank of Atlanta, sr. econ., res.; b. 1909; B.S. in B.A., 1931, Arizona; summers 1932-35, California; A.S., 1938, Ph.D., 1940, Duke. Fields 7, 9, 1. Doc. dis. Some relationships between size of city and per capita governmental cost and debt. Pub. "Essential functions of city government," Soc. Forces, Mar., 1942; "Voluntary savings and consumer behavior," Southern Econ. Jour., June, 1944; "The South and the loan to Britain," Monthly Rev. (Fed. Res. Bank of Atlanta), Feb., 1946.

TAYLOR, Clayton V., U.S. Civil Serv. Com., 8th and F Sts., N.W., Washington, D.C. (1942)

TAYLOR, George Rogers, P.O. Box 429, Amherst, Mass. (1922) Amherst Col., prof., teach., res.; b. 1895; Ph.B., 1921, Ph.D., 1929, Chicago. Fields 2a, 1b, 12b. Doc. dis. Agrarian discontent in Mississippi Valley preceding War of 1812 (J.P.E., Aug., 1931). Pub. "Wholesale commodity prices at Charleston, S.C., 1796-1861," Jour. of Econ. and Bus. Hist., Aug., 1932; "Selective price control," in Beginnings of OPA, Office of Temporary Controls, Office of Price Admin., 1947. Res. Industrial history of U.S., 1815-60. Dir. of Schol.

TAYLOR, George William, The Fairfax, 43rd and Locusts Sts., Philadelphia 4, Pa. (1934) Univ. of Pennsylvania, prof., teach., res.; b. 1901; B.S. in Econ., 1923, Ph.D., 1929, Pennsylvania. Fields 16, 14, 12. Doc. dis. Significant postwar changes in hosiery industry (Univ. of Pennsylvania Press, 1929). Pub. The full-fashioned hosiery worker (Univ. of Pennsylvania Press, 1931); Vertical integration in textile industry (with others) (Textile Found., 1936). Res. Industry-wide collective bargaining. Dir. W.W. in Amer.

TAYLOR, Gloria Constance, 55 Wilbur Rd., West Englewood, N.J. (1947) Bergen Col., instr., teach., res.; b. 1920; B.S., 1945, City of New York; M.A., 1947, 1947-48, New York; 1941-42, Univ. of Puerto Rico; 1937-39, New York Col. of Music. Fields 16, 1ab, 2a. Dir. of Schol.

TAYLOR, Henry Charles, Farm Found., 600 S. Michigan Ave., Chicago, Ill. (1903)

TAYLOR, Horace, Columbia Univ., Hamilton Hall, New York, N.Y. (1924)

TAYLOR, James Spear, 7009 Wilson Lane, Bethesda 14, Md. (1945) Klein and Saks, project mgr., res.; b. 1896; A.B., 1919, Harvard. Fields 15c, 14b, 11a. Pub. Seasonal operation in construction industries (co-author) (McGraw-Hill, 1924);

Trade association activities (co-author) (Dept. of Com., 1928). Res. Study of federal government field service activities.

*TAYLOR, John T., 1726 S. East St., Jacksonville, Ill. (1947) Retired Army officer; b. 1903; B.S., 1926, Illinois. Fields 10, 4b, 17b.

TAYLOR, Maurice Francis Walker, 215 C St., S.E., Apt. 411, Washington 3, D.C. (1947) U.S. Treas., Office of Int. Fin., econ., govt. serv., res.; b. 1917; B.S., 1939, Purdue; M.A., 1940, Indiana; 1940-41, New York; 1947-48, George Washington. Fields 10, 17b, 16.

TAYLOR, Milton Cecil, Michigan State Col., Dept. of Econ., East Lansing, Mich. (1948) Michigan State Col., instr., teach.; b. 1916; B.S.A., 1939, M.S.A., 1946, Univ. of British Columbia. Fields 7, 1a, 15b. Pub. An income study of a sample farming district (Univ. of British Columbia Ext. Dept., 1946).

TAYLOR, Overton Hume, B-22 Adams House, Cambridge 38, Mass. (1946) Harvard Univ., lecturer, teach., res.; b. 1897; A.B., 1921, Univ. of Colorado; Ph.D., 1928, Harvard. Fields 1ab, 4a, 2a. Doc. dis. The natural order. Pub. "Economics and politics," in Economics of recovery program (McGraw-Hill, 1934); "Economic theory and the age we live in," Rev. of Econ. Statis., June, 1937. Res. History of economic and political thought.

TAYLOR, Paul Nason, Univ. of Connecticut, Storrs, Conn. (1947)

TAYLOR, Paul Schuster, 119 South Hall, Berkeley, Calif. (1921)

TAYLOR, Philip Elbert, Box U-63, Storrs, Conn. (1934) Univ. of Connecticut, asso. prof., teach., res.; b. 1908; B.A., 1928, Duane Col.; Ph.D., 1934, Yale. Fields 9, 12, 1ab. Doc. dis. Turnpike era in New England. Pub. Economics of public finance (Macmillan, 1948).

TAYLOR, Virdon Washington, 5978 Cote Brillante Ave., St. Louis 12, Mo. (1942) Soc. Sec. Admin., field rep., govt. serv.; b. 1913; 1934-35, Central Col.; B.S., 1938, M.A., 1939, Missouri. Fields 17b, 11c, 1a.

TAYLOR, Wayne Chatfield, 1743 22nd St., N.W., Washington 8, D.C. (1943) Econ. Coop. Admin., adviser on fin. and monetary policy, govt. serv.; b. 1893; B.A., 1916, Yale. Fields 9, 10, 8b. Dir. W.W. in Amer., Int. W.W.

TAYLOR, William Bayard, Claremont Men's Col., Claremont, Calif. (1923) Claremont Men's Col., prof., teach., res.; b. 1896; B.A., 1918, Beloit; M.A., 1923, Ph.D., 1928, Minnesota. Fields 8ab, 7, 12. Doc. dis. Labor banking in U.S. Pub. Social security and life insurance (co-author) (Security Press, 1940); Financial policies of business enterprise (Appleton-Century, 1942); "Postwar price policy," Education, Sept., 1946.

TAYLOR, William Howard, 1606 Fifth Ave., Huntington, W.Va. (1935) Holman and Taylor, partner; Marshall Col., lecturer in econ.; bus., res., teach.; b. 1908; B.S., 1931, M.S., 1932, Ph.D., 1934, Illinois. Fields 11, 13, 1. Doc. dis. Reorganization of public utility corporation. Pub. "Issue price of public utility securities," Jour. of Land and Pub. Util. Econ., 1933; "Accounting curriculum study" (with A. D. Maxwell), Acctg. Rev., 1940. Res. Use of accounting data in economic analysis.

TEAD, Ordway, Harper & Bros., 49 E. 33rd St., New York, N.Y. (1922)

TEAF, Howard Morris, Jr., 3 College Lane, Haverford, Pa. (1935) Haverford Col., prof., dept. head., teach., res.; b. 1903; B.S. in Econ., 1924, M.A., 1933, Ph.D., 1935, Pennsylvania. Fields 8ac, 16, 12. Doc. dis. Self-insurance of workmen's compensation in Pennsylvania (Pa. Dept. of Labor and Industry, 1934). Pub. One year of WPA in Pennsylvania (WPA for Pa. 1936); Study of insurance problems of Home Owners Loan Corporation (co-author) (HOLC, 1939); Insurance practices of municipalities (co-author) (Inst. of State and local Govt., Univ. of Pennsylvania, 1938). Dir. Dir. of Schol.

TEBUTT, Arthur Rothwell, Northwestern Univ., Pearsons Hall, Evanston, Ill. (1939) North-

- western Univ., dean; b. 1906; B.A., 1927, Brown; M.A., 1930, Ph.D., 1935, Harvard. Fields 3ac, 6, 1c. Doc. dis. National bank failures and bank deposit insurance, 1865-1932. Pub. Introduction to economic statistics (with W. L. Crum and A. C. Patton) (McGraw-Hill, 1938); Behavior of consumption in business depressions (Harvard Univ., 1933). Dir. Dir. of Schol., Lead. in Educa.
- TEILER, Emanuel, 342 E. 6th St., New York 3, N.Y. (1947) Bur. of Labor Statis., Construction Nat. Interstate Statis., res., govt. serv.; b. 1922; attended City of New York. Fields 3, 1a, 14.
- TEMBY, J. L., 321 N. Level St., Dodgeville, Wis. (1925)
- TEMPLE, Alan H., 11 Paddington Rd., Scarsdale, N.Y. (1939) National City Bank of New York, vice-pres., res., edit.; b. 1896; B. Litt. in Jour., 1917, Columbia. Fields 6, 7, 8h. Dir. W.W. in Amer.
- TEMPLETON, John Marks, 30 Rockefeller Plaza, New York 20, N.Y. (1946) Templeton, Dobrow & Vance, Inc., pres., res., bus.; b. 1912; B.A., 1934, Yale; B.A., 1936, Oxford Univ. Fields 8b, 11a, 6.
- TENENBAUM, Henry, United Nations, Dept. of Econ. Affairs, Lake Success, N.Y. (1945) Belgian Econ. Mission, Statis. Sec., chief; United Nations, Econ. Affairs Officer; French Food Mission, Planning and Res. Div., chief; Ecole Libre des Hautes Etudes, lecturer; govt. serv., res.; b. 1914; Ingenieur Commercial, 1935, Univ. of Lille; Licencie en Sciences Economiques, 1937, Univ. of Brussels; Candidat-Docteur en Sciences Economiques, 1940, Univ. of Brussels; Docteur en Droit, 1942, Univ. Aix-Marseille. Fields 1ab, 7, 10. Doc. dis. La notion economique de l'equilibre et la theorie de la monnaie (Univ. of Aix-Marseille, 1942)
- TENNANT, Richard Bremner, 220 Park St., New Haven 11, Conn. (1941) Yale Univ., instr., teach., res.; b. 1915; B.A., 1937, Ph.D., 1948, Yale; 1938-39, King's Col., Cambridge. Fields 12a, 1a, 3. Doc. dis. American cigarette industry. Pub. "Role of competitive advertising," in Readings in economics (Macmillan, 1948).
- TENNER, Irving, 10 N. Clark St., Suite 706, Chicago 2, Ill. (1947) Self-employed, C.P.A., fiscal consult., bus., teach., govt. serv.; b. 1908; B.S., 1930, M.B.A., 1933, Ph.D., 1940, Northwestern. Fields 11c, 9, 13a. Doc. dis. Principles underlying municipal financial reporting (abstracts, Northwestern Univ., 1940). Pub. Municipal and governmental accounting (with C. H. Chatters) (Prentice-Hall, 1940); Financial administration of municipal utilities (Pub. Admin. Serv., 1947); Municipal accounting statements (Nat. Com. on Munic. Acctg., 1941).
- TEPER, Lazare, 1710 Broadway, New York 19, N.Y. (1938) Int. Ladies' Garment Workers' Union, dir. of res., res.; b. 1908; A.M., 1930, Ph.D., 1931, Johns Hopkins. Fields 16, 14a, 3c. Doc. dis. Hours of labor (Johns Hopkins Press, 1932). Pub. Women's garment industry (Int. Ladies' Garment Workers Union, 1937); "Observations on cost-of-living index of Bureau of Labor Statistics," Jour. of Amer. Statis. Asso., 1943; Need for additional productivity measures (U.S. Bur. of Labor Statis. Bul. 913, 1947). Res. Collective bargaining and arbitration; analysis of concept of productivity measurement. Dir. W.W. in Com. and Ind., in East.
- TEPPER, Lester, 1346 Park Rd., N.W., Apt. 208, Washington, D.C. (1945)
- TERBORGH, George Willard, 4542 26th St., N., Arlington, Va. (1928) Machinery Inst., res.; b. 1897; A.B., 1922, Oberlin; A.M., 1925, Chicago; Ph.D., 1928, Brookings. Fields 8a, 1a, 6. Doc. dis. Judicial interpretation of antitrust laws. Pub. The bogey of economic maturity (Machinery Institute, 1945); Dynamic equipment policy (McGraw-Hill, 1948).
- TERESHENKO, Valery John, 104 W. 64th St., New York 23, N.Y. (1934) Asia Inst.; U.S. Dept. of Agric., teach., govt. serv.; b. 1901; Engr. of Econ., 1927, State Commercial Inst. (Polytechnicum, Prague, Czech.); Engr., 1928, Cooperative Inst. (Prague, Czech.); 1942, Columbia. Fields 10, 2b, 4ac. Pub. "American-Soviet trade relations: past and future," 1945, "Co-operatives in Soviet Union," Russian Econ. Inst., 1942; "Work of reconstruction cooperatives in France after first World War," Monthly Labor Rev., Aug., 1943. Res. Organization and management of Soviet collective farms (doc. dis.).
- TERPENNING, Walter Abram, 314 E. Michigan Ave., Albion, Mich. (1941) Albion Col., Dept. of Econ. and Bus. Admin., dept. head, prof., teach., res.; b. 1886; A.B., 1914, Kalamazoo Col.; Ph.D., 1924, Michigan. Fields 1a, 16, 4c. Doc. dis. Social organization working with rural people (Ext. Div., Western State Teachers Col., 1925). Pub. Village and open-country neighborhoods (Century, 1931); "Stabilizing values," Forum, 1932. Res. Human relations in industry. Dir. W.W. in Amer., in Michigan.
- TERRILL, Robert Philip, Dept. of State, Int. Resources Div., Washington 25, D.C. (1946) Dept. of State, Int. Resources Div., asso. chief, govt. serv.; b. 1903; B.A., 1931, M.A., 1933, Ph.D., 1941, Stanford. Fields 10, 12, 1ab. Doc. dis. Interregional balance of payments of South California, 1920-34. Pub. A cartel policy for United Nations (edited by C. D. Edwards) (Columbia Univ. Press, 1945); "American trade proposals: restrictive business practices," Dept. of State Bul., Dec., 1945; "Cartels and international exchange of technology," Econ. Rev., May, 1946.
- TESORO, George Alfred, 4104 Leland St., Chevy Chase 15, Md. (1942) Dept. of State, int. econ.; American Univ., adj. prof.; govt. serv., teach.; Diploma, 1924, Dr. Juris., 1925, Dr. Rer. Pol., 1929, Ph.D. 1930, Univ. of Rome. Fields 10, 9, 4a. Doc. dis. Legal enforcement of direct taxation (Treves, Milan, 1930). Pub. First principles of taxation (Macri, Bari, 1938); Bankruptcy of fascist economy through eyes of Italian economists (BLAR, 1943); "Italy's experience in curbing inflation through fiscal devices," in Curbing inflation through taxation (Tax Inst. Symposium, 1944).
- *TEUTSCH, Erika, 419 W. 118th St., New York 27, N.Y. (1948)
- *TEWARI, Jagdish Narain, Columbia Univ., 1131 John Jay Hall, New York 27, N.Y. (1947)
- *TEWELES, Richard Jack, 1102 W. California Ave., Urbana, Ill. (1948) Univ. of Illinois, grad. asst., teach.; b. 1924; 1940-41, New York; B.S., 1946, M.S., 1947, 1947-48, Illinois. Fields 1ab, 7, 11b.
- *THAIR, Philip James, Iowa State Col., Dept. of Econ., Ames, Iowa. (1947) Iowa State Col., Dept. of Econ., student, res., teach.; b. 1917; B.S.A., 1942, M.Sc., 1944, Univ. of Saskatchewan; 1946-48, Iowa State Col. Fields 15b, 1ac, 3. Pub. Market for farm products in town of Smiths Falls (Econ. Div., Canadian Dept. of Agric., 1946). Res. Economic relationships between agriculture and national and world economies (doc. dis.).
- THATCHER, George Wilson, 123 W. Walnut St., Oxford, Ohio. (1948) Miami Univ., asso. prof., teach., res.; b. 1913; 1931-33, Weber Col.; 1934-35, Southern California; B.S., 1936, Utah; Ph.M., 1939, Wisconsin. Fields 9, 13a, 1a. Res. Property taxation in Ohio.
- THATCHER, Lionel W., 4812 Drummond Ave., Chevy Chase, Md. (1943)
- THAYER, Ralph Ira, State Col. of Washington, Pullman, Wash. (1941) State Col. of Washington, School of Econ. and Bus., asso. prof., teach., res.; b. 1915; B.S., 1935, Northwestern; M.A., 1944, Univ. of Washington; Ph.D., 1947, Stanford. Fields 16, 1ab, 9. Doc. dis. Comparative study of tax system of state of Washington (State of Washington, 1947). Pub. "Labor market trends on Pacific coast," 1947, "Labor market information in Oregon and Washington," 1948, Proceed. Pacific Coast Econ. Asso.; "An over-all view of Washington tax structure," Proceed., Inst. of Pub. Affairs, 1947. Res. History of labor in Pacific northwest; economic analysis of factors used in determining wage rates through collective bargaining. Dir. W.W. on Pacific Coast.

THELEN, Max, 136 Alvarado Rd., Berkeley 5, Calif. (1935) Thelen, Marrin, Johnson & Bridges, sr. partner, bus.; b. 1880; B.L., 1904, California; A.M., 1906, Harvard. Fields 12b, 13. Dir. W.W. in Amer.

THEOBALD, Adrian Daniel, 5 Prospect Lane CMR 77, Peoria, Ill. (1946) Peoples Fed. Savings and Loan Assn. of Peoria, exec. vice-pres., bus.; b. 1906; A.B., 1927, Akron; M.B.A., 1929, Northwestern. Fields 6, 15c, 11. Pub. Saving and loan principles (Prentice-Hall, 1937); Subdivision finance (Inst. for Res. in Land Econ., 1930); "Real estate licence laws," Jour. of Land and Pub. Util. Econ., 1930. Dir. W.W. in Amer.

THEODORE, Demetrios Efsthios, 4451 W. 20th St., Cleveland 9, Ohio. (1946) Fenn Col., asst. prof., teach.; b. 1904; B.B.A., 1932, Northeastern; A.M., 1933, Ph.D., 1938, Boston Univ.; 1938-39, Staley Col. of Spoken Word. Fields 1a, 12b, 4c. Doc. dis. Economic history of modern Hellas. Res. Historical interrelationship of competition and co-operation.

THEODORIDES, Angelos, 211 15th St., Denver 2, Colo. (1940) Univ. of Denver, prof. of econ. and statis., teach., res.; b. 1908; B.C.S., 1930, Robert Col.; M.B.A., 1932, D.C.S., 1939, New York. Fields 3a, 10, 1b. Doc. dis. Production of direct and indirect goods in U.S., 1899-1929. Pub. Iron and steel, war changes in industry series (Tariff Com., 1946); Iron and steel industry of France, information guide (For. Econ. Admin., 1944). Res. World economic position of U.S.; trends in aviation in Denver area.

THIELECKE, Walter L., 1628 Telephone Bldg., St. Louis, Mo. (1943)

THOM, William R., Stark Federal Bldg., Canton 2, Ohio. (1943)

THOMAS, George, 1317 E. on S. Temple St., Salt Lake City 2, Utah. (1917) Retired; b. 1866; A.B., 1896, A.M., 1901, Harvard; LL.D., 1940, Utah. Field 15ab. Doc. dis. European constitutions (Earl & England). Pub. Die Geschichte der Zolltarife und Handelsverträge der Staaten (Hofbuchdruckerei von Kaemmerer, Halle, Germany); Development of institutions under irrigation (Macmillan). Res. Land economics. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.

THOMAS, Herman Pollard, Univ. of Richmond, Richmond, Va. (1940) Univ. of Richmond, prof. of econ., dept. head, teach.; b. 1895; B.A., 1917, Richmond; M.A., 1925, Ph.D., 1932, Virginia; 1941-42, Harvard. Fields 7, 9, 2a. Doc. dis. Group banking in northwest. Pub. History of Norfolk and Western Railway; "Virginia's fiscal condition," Univ. of Virginia News Letter, Jan., 1944. Dir. W.W. Among America's Young Men, in South and Southwest.

*THOMAS, Lyell, 7 Elliewood Ave., Charlottesville, Va. (1948)

THOMAS, Raymond Doty, 623 W. 4th Ave., Stillwater, Okla. (1921) Oklahoma A. and M. Col., prof. of econ., School of Com., dean., teach., govt. serv.; b. 1892; B.S., 1920, Missouri State Col.; Ph.M., 1921, Ph.D., 1926, Wisconsin. Fields 1ab, 9, 16. Doc. dis. Farm land valuation. Pub. "Study in Missouri politics," Mo. Hist. Rev., Jan., Apr., July, 1927; "Report of committee of National Tax Association on tax limitation and homestead exemption," Proceed., Nat. Tax Asso., 1938; "Burden of taxation, and economics and full employment," Southwestern Soc. Sci. Quar., June, 1941, Mar., 1947. Dir. W.W. in Amer.

THOMAS, Rollin G., 610 Dodge St., Lafayette, Ind. (1928)

THOMAS, Woodlief, 26 E. Bradley Lane, Chevy Chase 15, Md. (1924) Bd. of Gov. of Fed. Res. System, Div. of Res. and Statis., dir., dept. head, edit., res.; b. 1897; B.S., 1922, Pennsylvania; Ph.D., 1928, Brookings. Fields 7, 6, 8ab. Doc. dis. Growth of production. Pub. "Credit in security speculation," A.E.R., Mar. Sup., 1928; Money system of U.S. (Banking Studies, 1941); Postwar monetary policy (with R. A. Young) (Postwar Econ. Studies No. 8, 1947). Dir. W.W. in Amer., Int. W.W.

THOMPSON, Carey Carter, Univ. of Texas,

Dept. of Econ., Austin 12, Tex. (1946) Univ. of Texas, asst. prof., teach., res.; b. 1908; B.A., 1928, M.A., 1931, Texas; 1938-39, 1940, North Carolina. Fields 9, 17b, 1. Pub. "Experience rating in Texas unemployment compensation program," Southwestern Soc. Sci. Quar., Mar., 1947. Res. History of unemployment compensation in Texas.

THOMPSON, Charles Manfred, 709 W. University Ave., Champaign, Ill. (1913) Univ. of Illinois, dean, prof. emeritus; b. 1877; A.B., 1909, A.M., 1910, Ph.D., 1913, Illinois; 1910-11, Harvard; LL.D., 1921, Muskingum; Litt.D., 1931, McKendree. Fields 1a, 2a. Doc. dis. Illinois Whigs before 1846 (Univ. of Illinois Press, 1913). Pub. Principles and practices of economics (1928), High school economics (1932) (Sanborn & Co.); Economic development of U.S. (Macmillan, 1938). Dir. W.W. in Amer., Int. W.W.

THOMPSON, Donald Scougall, 3352 Norwood Rd., Shaker Heights 22, Ohio. (1942) Fed. Res. Bank of Cleveland, vice-pres., dept. head, res., bus.; b. 1899; B.S., 1923, M.A., 1928, California. Fields 7, 8a, 6. Pub. "Actuarial and statistical basis of deposit insurance," Nat. Auditgram, Mar., 1940; "Deposit insurance and bank supervision," in Forum on finance (Columbia Univ. Press, 1940); "Housing shortage and real estate boom," Monthly Bus. Rev., Apr. sup., 1948.

*THOMPSON, James Howard, 412 Eastern Ave., Pittsburgh 15, Pa. (1947) West Virginia Univ., asst. prof., teach., res.; b. 1919; A.B., 1940, Maryville Col.; M.A., 1946, Tennessee; 1946-48, Pittsburgh. Fields 9, 1ab, 4a. Res. Financial history of Pittsburgh (doc. dis.).

THOMPSON, John Giffin, 1319 E. Capital St., Washington 3, D.C. (1908)

THOMPSON, Samuel H., 3535 R St., N.W., Washington, D.C. (1941)

THOMPSON, Samuel Holliston, Iowa State Col., Ames, Iowa. (1923) Iowa State Col., res. and extension prof., res., teach.; b. 1891; B.S., 1914, Minnesota; M.S., 1923, Iowa State Col.; summer, 1930, Chicago; Ph.D., 1938, Minnesota. Fields 15b, 1a, 3a. Doc. dis. Economic trends in marketing of Iowa livestock. Pub. Economic trends in livestock marketing (John S. Swift, 1940); "Organization of producers for marketing hogs," in American co-operation (Amer. Inst. of Co-op., 1937); "Marketing phase of Iowa farm living," in Century of farming in Iowa, 1846-1946 (Iowa State Col. Press, 1946). Res. Price differentials of slaughter hogs; marketing feeder cattle and sheep. Dir. W.W. in Amer.

THOMPSON, William H., 901 Ridgewood, Ames, Iowa. (1946) Iowa State Col., asso. prof., teach., res.; b. 1910; B.S., 1934, Pennsylvania State Teachers Col.; M.S., 1939, Syracuse; Ph.D., 1948, Iowa State Col. Fields 13ab, 11, 12. Doc. dis. Economics of ex parte 162, the 1946 railroad rate level proceedings. Pub. Problems for elementary accounting (1946), Problems for elementary economics (1947) (Wm. C. Brown Co.); "Job placement study for junior colleges," Junior Col. Jour., 1941. Res. Freight traffic trends in Iowa, 1935-48.

THOMSON, (Mrs.) Dorothy Lampen, 126 Weyman Ave., New Rochelle, N.Y. (1927) Hunter Col., asso. prof., teach.; b. A.A., 1926, Carleton Col.; Ph.D., 1929, Johns Hopkins. Fields 1ab, 2a, 6.

THOMSON, Norman Bryant, Box 576, State College, Pa. (1947) Pennsylvania State Col., asst. prof.; Lehigh Univ., visiting lecturer in econ., teach.; b. 1898; 1914-17, Penn. State Col.; A.B., 1920, Drake; 1920-21, Chicago. Fields 8ab, 7, 11ab. Pub. Population trends in Ohio (1935), Industrial trends in Ohio (1936) (Ohio State Plan. Bd.). Res. Case studies on corporate reorganization; fiscal operations of Trcas. Dept. to stabilize total income. Dir. W.W. in Chicago.

*THOMSON, Proctor, 5239 Ellis, Chicago 15, Ill. (1947) Univ. of Chicago, res. asst., res.; b. 1919; 1936-38, Swarthmore; A.B., 1940, M.A., 1941, Ohio State. Fields 1a, 7, 15b. Res. Productivity of human agent in agriculture: an international comparison (doc. dis.).

THORNTON, Richard H., Ginn and Co., Statler Bldg., Boston, Mass. (1946)

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- TOBIN, James, 58 Washington Ave., Cambridge 40, Mass. (1946) Harvard Univ., jr. fellow, res.; b. 1918; A.B., 1939, Ph.D., 1947, Harvard. Fields 6, 3b, 1ac. Doc. dis. A theoretical and statistical analysis of consumer saving. Pub. "Note on money wage problem," *O.J.E.*, 1941; "Money wage rates and employment," in *New economics* (Knopf, 1947); "Liquidity preference and monetary policy," *Rev. of Econ. Statist.*, 1947.
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- TOLLEY, Howard Ross, 1201 Connecticut, N.W., Washington 6, D.C. (1924) Food and Agric. Org. of U.N., dir., res.; b. 1889. Fields 10, 4, 3. Dir. W.W. in Amer.
- TOLMAN, Elizabeth Bryant, Wellesley Col., Dept. of Econ., Wellesley 81, Mass. (1947) Wellesley Col., instr., teach.; b. 1919; A.B., 1941, Smith; M.A., 1942, Maine. Fields 16, 4a, 2. Res. Penal laws in U.S.
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- TOMPKINS, Haldon M., 1040 Cory St., Fostoria, Ohio. (1947)
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- *TONAT, Edward, 1833 S. 48th Ct., Chicago 50, Ill. (1948) B. 1916; B.A., 1940, Carleton; M.A., 1948, Wisconsin. Field 16.
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- TOPKIS, Bernard H., 1316 New Hampshire Ave., N.W., Washington, D.C. (1939) U.S. State Dept., econ., res.; govt. serv.; b. 1897; Ph.B., 1922, Chicago; 1915-17, Cornell Univ.; 1918-19, Harvard. Fields 14ab, 10, 15bce. Pub. "Labor requirements in lumber production," May, 1937, "Labor re-

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TOSTLEBE, Alvin Samuel, Wooster, Ohio. (1945) Col. of Wooster, prof., dept. head; U.S. Bur. of Agric. Econ., consult., W.A.E.; teach., govt. serv.; B.A., 1916, Iowa State Teachers Col.; M.A., 1920, Ph.D., 1924, Columbia. Fields 7, 9, 15b. Doc. dis. Bank of North Dakota: an experiment in agrarian banking (Columbia Univ., 1924). Pub. Casebook for economics (with W.E. Weld) (Ginn, 1927); Impact of war on financial structure of agriculture (U.S. Bur. of Agric. Econ., 1944); "Estimate of series E Bond purchases by farmers," Jour. of Amer. Statis. Asso., 1945. Dir. W.W. in Amer.

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TOULAN, Saleh I., 601 High St., Denver, Colo. (1948)

TOUSLEY, Rayburn Dean, State Col. of Washington, School of Econ. and Bus., Pullman, Wash. (1938) State Col. of Washington, prof., teach., res.; b. 1911; B.S., 1931, A.M., 1933, Missouri; Ph.D., 1943, Northwestern. Fields 11b, 12a, 14a. Doc. dis. Advertising and merchandising of Washington State apples. Pub. Economics of industrial alcohol (Bur. of Econ. and Bus. Res., State Col. of Wash., 1945); "Advertising fresh fruits and vegetables," Harvard Bus. Rev., Summer, Autumn, 1944; Marketing in West (contrib.) (Ronald Press, 1946).

TOW, Clarence Wesley, Fed. Res. Bank, Kansas City 18, Mo. (1936)

TOWER, Ralph Burnett, 525 Grant Ave., Morgantown, W.Va. (1925) West Virginia Univ., prof., dept. head, Bur. Bus. Res., dir., teach., res.; b. 1900; 1927-28, Duke; B.B.A., 1924, M.B.A., 1927, Boston Univ.; Ph.D., 1931, Cornell Univ.; 1929, Ohio State. Fields 9, 8a, 3a. Doc. dis. Luxury taxation and its place in a system of public revenues (N.Y. State Tax Com., 1931). Pub. General property tax in West Virginia and its economic basis (West Virginia Univ., Bur. of Bus. Res., 1946); West Virginia County basic data sheet (Farm Jour. and Dept. of Com., 1945); "Taxation of manufacturing in West Virginia," Univ. of Kentucky, 1947. Res. West Virginia business index studies; consumer education; assessment studies with respect to West Virginia real and personal property. Dir. Lead. in Educa.

TOWLE, Joseph Walter, Northwestern Univ., Lunt 111, Evanston, Ill. (1947) Northwestern Univ., asst. prof. of mgt., teach.; b. 1909; A.B., 1932, Lehigh; M.B.A., 1938, Ph.D., 1948, Northwestern. Fields 11a, 16, 14a. Doc. dis. Department store personnel relations. Res. Department store personnel relations.

TOWLE, Lawrence William, 132 Newbury St., Hartford 6, Conn. (1932) Trinity Col., prof. of econ., dept. head, teach.; b. 1902; B.A., 1924,

Bowdoin Col.; M.A., 1927, Ph.D., 1932, Harvard. Fields 10, 7, 1ab. Doc. dis. Time deposits. Pub. International trade and commercial policy (Harper, 1947); "Time deposits and price stability, 1922-28," A.E.R., Dec., 1935; "Cyclical behavior of time deposits in U.S.," Harvard Bus. Rev., 1936. Res. International commodity agreements. Dir. Dir. of Schol., W.W. in Amer. Educa.

TOWLES, John Ker, 45 Pinchurst Ave., New York 33, N.Y. (1910)

TOWNE, E(zra) T(hayer), Univ. of North Dakota, Grand Forks, N.D. (1905)

TOWNSEND, Roswell G., St. Lawrence Univ., Dept. of Econ., Canton, N.Y. (1946) St. Lawrence Univ., asst. prof., teach.; b. 1918; A.B., 1940, A.M., 1941, Duke; A.M., Ph.D., 1948, Harvard. Fields 1ab, 12, 6. Doc. dis. Some economic aspects of urban housing.

TOWNSEND, Julius J., 2900 Boarman Ave., Baltimore, Md. (1946)

TOWSLEY, Frank H., 36 W. 44th St., New York, N.Y. (1943)

TRACEY, Minnie Beulah, Wittenberg Col., Springfield, Ohio. (1947) Wittenberg Col., asst. prof., teach.; b. 1901; 1919-21, Coe Col.; A.B., 1924, Michigan; M.S.C., 1935, Denver; 1938, Chicago; Ph.D., 1948, Ohio State. Fields 11, 1, 3. Doc. dis. Marketing of frozen food products.

TRACY, Truman Glenn, Univ. of Missouri, B. and P.A. Bldg., Columbia, Mo. (1947)

TRAFTON, George Henry, 76 N. Main St., Leominster, Mass. (1926)

TRANT, James Buchanan, Louisiana State Univ., Col. of Com., Baton Rouge, La. (1923) Louisiana State Univ., dean, teach., res.; b. 1890; A.B., 1920, Howard; A.M., 1921, Princeton; Ph.D., 1926, Illinois. Field 7. Doc. dis. Gold standard and monetary stabilization banking. Pub. "Industrial development of Louisiana," Southwestern Polit. and Soc. Sci. Asso. Proceed., 1929; "Factors in success," Balance Sheet, May, 1930; Activities of bureaus of business research," Jour. of Bus., Oct., 1932. Dir. W.W. in Amer.

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TREDLAND, John Roger, U.S. Naval Acad., Dept. of Econ., Hist., and Gov., Annapolis, Md. (1948)

TREDWELL, Thomas Alanson, 16 Crows Nest Rd., Bronxville 8, N.Y. (1942) Architectural Record, adv. mgr., bus.; b. 1900; A.B., 1923, Wisconsin; M.A., 1942, New York. Fields 11b, 15e, 2a. Dir. W.W. in East., in New York.

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- *TRIANTIS, Stephen**, 273 Bloor St. W., Toronto, Ont., Canada. (1947) Univ. of Toronto, instr., res., teach.; b. 1918; B.A. (Law), 1938, B.A. (Econ.), 1944, Univ. of Athens. Fields 1a, 7, 2b. Res. Capital problems of developing countries.
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- TRIPP, Chester Dudley**, 310 S. Michigan Ave., Room 1616, Chicago, Ill. (1943)
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- **TROTTA, Leona** (Mrs. Maurice S.), 27 Birdseye Glen, Verona, N.J. (1947) Brooklyn Col., instr.; Upsala Col., instr., teach.; b. 1908; B.A. 1931, New York; M.A., 1934, 1943-45, Columbia. Fields 16, 8ab, 10. Res. Survey of training programs in industry and their effect on labor-management relations.
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- TRUMP, Ross Myron**, 36th and Walnut Sts., Philadelphia 4, Pa. (1940) Amer. Col. of Life Underwriters, asst. dean, edit., res.; b. 1911; B.S., 1937, M.B.A., 1938, Ph.D., 1947, Ohio State. Fields 11ab, 8c, 10. Doc. dis. Port of New Orleans with special reference to its foreign trade zone. Pub. Developments in governmental supervision of insurance (Amer. Col. of Life Underwriters, 1948).
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- TUCKER, Donald Skeele**, Mass. Inst. of Tech., Cambridge, Mass. (1912)
- *TUCKER, James F., Jr.**, Howard Univ., Box 47, Washington 1, D.C. (1948) B. 1924; B.A., 1947, M.A., 1948, Howard. Fields 14, 12, 8.
- TUCKER, Morrison Graham**, 1243 California Rd., Tuckahoe, N.Y. (1941)
- *TUCKER, Robert Henry**, Washington and Lee Univ., Lexington, Va. (1912) Washington and Lee Univ., lecturer in econ., teach., res., govt. serv.; b. 1875; A.B., 1893, A.M., 1897, LL.D., 1926, William and Mary; 1908-10, 1915, Wisconsin. Fields 9, 13ab, 16. Pub. "An application of cost accounting in rate-making," J.P.E., June, 1915; "Social aspects of women's compensation laws," South Atlantic Quar., Apr., 1923; "Some aspects of intergovernmental tax exemption," Southern Econ. Jour., Jan., 1940. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.
- TUCKER, Rufus Stickney**, 436 Hillside Ave., Westfield, N.J. (1912) General Motors Corp., econ.; b. 1890; A.B., 1911, A.M., 1912, Ph.D., 1914, Harvard. Fields 6, 7, 9. Doc. dis. Incidence of taxes on real estate. Pub. "Gold and general price level," *Rev. Econ. Statist.*, Jan., Feb., 1934; "Distribution of income in U.S., 1863-1935," Q.J.E., Aug., 1938; "Composition of income and ownership of capital by income classes in U.S., 1936," *Jour. of Amer. Statist. Asso.*, June, 1943. Dir. W.W. in Amer.
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- **TUGMAN, Mrs. James L.**, 2399 Edgerton Rd., University Heights, Cleveland 18, Ohio. (1946)
- TUGWELL, Rexford Guy**, 5624 Dorchester Ave., Chicago, Ill. (1921)
- TULLY, Andrew M.**, 445 Riverside Dr., New York 27, N.Y. (1942)
- TURE, Norman Bernard**, Illinois Col., Dept. of Econ., Jacksonville, Ill. (1947) Illinois Col., asst. prof., teach.; b. 1923; 1941-43, Ohio State; M.A., 1947, Chicago. Fields 9, 1, 7. Res. Formation of federal debt policy during World War II (doc. dis.).

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- TURNER, John R.**, 3358 N. Mt. View Dr., San Diego, Calif. (1941)
- TURNER, Robert Clemens**, 9803 Merrywood Lane, Silver Spring, Md. (1935) White House, Exec. Offices of Pres., econ. adviser to asst. to President, teach., govt. serv.; b. 1908; A.B. 1930; Hiram; M.B.A., 1932, Northwestern; Ph.D., 1937, Ohio State. Fields 7, 12b, 3a. Doc. dis. Member bank borrowing. Pub. Member bank borrowing (Ohio State Univ. Press, 1938); Export control (School for Advanced Int. Studies, 1947). Dir. W.W. in Amer., in East.
- TURNEY, (Merle) Clark**, 919 N. Cross St., Wheaton, Ill. (1935) A. T. Kearney & Co., staff engr., bus.; b. 1910; B.S., 1932, M.S., 1934, Ph.D., 1937, Illinois. Fields 16, 11a, 13.
- TURRELL, Virginia**, Smithtown Branch, New York. (1946)
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- TZETZO, Fadra**, 34 Bidwell Pkwy., Buffalo 13, N.Y. (1946)
- *UHLAND, Jean Harper**, 190 E. 14th Ave., Columbus 1, Ohio. (1948)
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- VARON, Frank R., 1684 Grand Concourse, New York 57, N.Y. (1947)
- **VATTER, Ethel L. (Mrs. Harold G.), 735 S. 16th St., Corvallis, Ore. (1947)
- VATTER, Harold G., 735 S. 16th St., Corvallis, Ore. (1944)
- VATTER, William Joseph, 8447 Constance Ave., Chicago 17, Ill. (1941) Univ. of Chicago, School of Bus., prof. of acctg., teach., res.; b. 1905; 1921-24, Cincinnati; B.S., 1934, Miami Univ.; M.B.A., 1937, Ph.D., 1946, Chicago. Fields 11ac, 14ab, 3a. Doc. dis. Fund theory of accounting, and its implications for financial reports (Univ. of Chicago Press, 1947). Pub. "Limitations of overhead allocations," Acctg. Rev., Apr., 1945; "Accounting measurements of incremental cost," Jour. of Bus., July, 1945; "Direct method for preparation of fund statements," Jour. of Accountancy, June, 1946. Res. Theory of measurement applied to accounting; managerial functions of accounting.
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- VIETH, Arthur G., Jr., Washington Univ., St. Louis 5, Mo. (1942)

VILLARD, Henry Hilgard, 117 Fifth St., Garden City, N.Y. (1935) Hofstra Col., prof., dept. head, teach., res.; b. 1911; A.B., 1932, Yale; A.B., 1934, M.A., 1939, Cambridge Univ.; Ph.D., 1941, Columbia. Fields 6, 7, 5. Doc. dis. Deficit spending and national income (Farrar & Rinehart, 1941). Pub. "Dr. Moulton's estimates of saving and investment," A.E.R., 1937; "Federal Reserve System's monetary policy in 1931 and 1932," J.P.E., 1937. Res. Federal program to stabilize housing construction. Dir. Dir. of Schol.

VILLASENOR, Eduardo, 2a. Privada Frontera No. 14, Villa Alvaro Obregon, Mexico, D.F. (1927)

VINER, Edward A., R.D. 1, Box 188, Keyport, N.J. (1947)

VINER, Jacob, Princeton Univ., Dept. of Econ., Princeton, N.J. (1920) Princeton Univ., prof., res., teach.; b. 1892; B.A., 1914, McGill Univ.; M.A., 1915, Ph.D., 1922, Harvard. Fields 1ab, 10. Doc. dis. Canada's balance of international indebtedness, 1900-13 (Harvard Univ. Press, 1924). Pub. Dumping—a problem in international trade (Univ. of Chicago Press, 1923); Studies in the theory of international trade (Harper, 1937); Trade relations between free market and controlled economies (League of Nations, 1943). Dir. W.W. in Amer., Int. W.W.

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†VIRTUE, George O. (lien), Univ. of Nebraska, Lincoln, Neb. (1911)

VITOLO, John L., 1932 Home Ave., New York 61, New York. (1946) New York Quartermaster Purch. Office, statis., govt. serv.; b. 1920; B.S.S., 1941, City of New York; 1943-44, Denver; M.S., 1947, Columbia. Fields 12b, 11a, 14.

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VIVIAN, Glenn F., Statis. Bur., Western Lines, 416 Chicago Union Station, Chicago, Ill. (1939)

VOGELY, William Arthur, Gambier, Ohio. (1947)

VOGT, Gustave L., Jr., 37 W. Greenwood Ave., Lansdowne, Pa. (1947)

von BECKERATH, Herbert, Duke Sta., Box 4711, Durham, N.C. (1934) Duke Univ., teach., res.; b. 1886; Ph.D., 1911, Univ. of Freiburg. Fields 4ab, 12, 10. Doc. dis. Die Kartelle der deutschen seidenwebendes Industrie (Braun, Karlsruhe, 1911). Pub. Modern industrial organization (McGraw-Hill, 1933); In defense of the West (Duke Univ. Press, 1942); Das politische und oekonomische Gleichgewicht Spaniens (G. Fischer, Jena, 1925). Res. Reconstruction and economic planning in Western Europe. Dir. W.W. in Amer., Int. W.W.

von CRIACY-WANTRUP, Siegfried, Univ. of California, 207 Giannini Hall, Berkeley, Calif. (1940)

Von HAUNALTER, Eberhart, 211 E. 71st St., New York 21, N.Y. (1943) Duncan Gilmore & Co., mgr., bus.; b. 1905; M.A., 1929, School for Bus. Admin. (Vienna); attended Univ. of Cincinnati. Fields 11b, 4a, 15d.

von MERING, Otto O., 48 Sparks St., Cambridge 38, Mass. (1941) Tufts Col., prof., teach., res.; b. 1888; LL.D., 1909, Halle a. S. Jena, Berlin; Ph.D., 1914, Lausanne. Fields 9, 1a, 8b. Doc. dis. Mortgages on entails (1909); Liquidity of German commercial banks (1914). Pub. Shifting and incidence of taxation (Blakiston, 1942); Liberal fiscal policy (W. Rothschild, Berlin, 1931); "Theorie der internationalen Werte," Archiv für Sozialwissenschaft, Apr., 1931. Res. Liberalism.

VOORHIES, Edwin C., Univ. of California, Col. of Agric., Berkeley, Calif. (1925)

VOORHIS, Jerry, 362 Hawthorne Lane, Winnetka, Ill. (1942)

VOSK, Marcus, 167 E. 95th St., New York 28, N.Y. (1947)

VOSS, Wellington Joseph, 439 Ingraham St., N.W., Washington 11, D.C. (1943) Amer. Federation of Govt. Employees (A.F.L.), exec. asst. to nat. pres.; Catholic Univ., lecturer in econ.; res., teach.; b. 1897; A.B., 1918, M.A., 1942, Catholic. Fields 16, 1a, 3a.

VUILLEMIN, Alexander C., General Motors Overseas Operations, 1775 Broadway, New York 19, N.Y. (1947)

WACHTEL, Sidney Darnell, 133 Indiana St., Maplewood, N.J. (1942)

WADLEIGH, Lloyd O., 132 W. Foothill Blvd., Claremont, Calif. (1947)

WAGNER, Martin, Louisville Labor-Mgt. Com., 308 Heyburn Bldg., Louisville, Ky. (1939) Louisville Labor-Mgt. Com., exec. dir.; Univ. of Louisville, lecturer; govt. serv., teach., res.; b. 1911; A.B., 1933, M.A., 1935, Michigan; B.A., 1937, Magdalen Col., Oxford. Fields 16, 17, 2.

WAI, U Tun, c/o Grindlay and Co., Ltd., 54, Parliament St., London S.W. 1, England. (1946)

***WAIT, William Bradley**, Cornell Univ., Box 27, Goldwin Smith Hall, Ithaca, N.Y. (1947)

WAITE, Warren C., Div. of Agric. Econ., University Farm, St. Paul 1, Minn. (1924) Univ. of Minnesota, prof. teach., res.; b. 1896; B.S., 1919, M.A., 1921, Ph.D., 1924, Minnesota. Fields 15b, 17d, 3a. Doc. dis. Price making mechanism of central markets. Pub. Economics of consumption (1928), Consumer and economic order (with R. Cassady, Jr.) (1938) (McGraw-Hill); Seasonal variations of prices and marketings of Minnesota agricultural products (Minn. Agric. Exp. Sta., Tech. Bul. 127, 1938). Res. Income and expenses of Minnesota agriculture; demand for agricultural products. Dir. W.W. in Amer.

WALD, Gladys B. (Mrs. Leon), Sampson Col., Dept. of Econ., Sampson, N.Y. (1945)

WALD, Haskell Philip, 2715 Terrace Rd., S.E., Washington 20, D.C. (1942) U.S. Dept. of Com., Office of Bus. Econ., Bus. Rev. Sec., chief, govt. serv.; b. 1916; A.B., 1938, Clark Univ.; 1938-40, American; A.M., 1942, Harvard. Fields 9, 6, 1a. Pub. "Classical indictment of indirect taxation," Q.J.E., Aug., 1945; "Variations of retail sales taxes," A.E.R., June, 1944. Res. Federal budget and national economy.

****WALD, Leon**, Sampson Col., Econ. Dept., Sampson, N.Y. (1948)

WALDECK, Herman, Continental Ill. Nat. Bank and Trust Co., 231 S. La Salle St., Chicago, Ill. (1934)

WALES, Hugh Gregory, Univ. of Illinois, Urbana, Ill. (1936) Univ. of Illinois, asso. prof. of mktg., teach., res.; b. 1910; B.A., 1932, Washburn; M.B.A., 1934, Harvard; Ph.D., 1944, Northwestern. Fields 11b, 1, 2. Doc. dis. Kansas City wholesale fruit and vegetable market. Pub. "Kansas City wholesale fruit and vegetable market." Jour. of Bus. of Univ. of Chicago, 1946; "Classroom use of visual aids," Amer. Bus. Educ., 1947. Res. Market survey of business uses of life insurance.

WALINSKY, Louis J., 875 West End Ave., New York 25, N.Y. (1944)

WALKER, Charles Edward, 1513A Enfield Rd., Austin, Tex. (1947) Univ. of Texas, instr. in fin., teach., res.; b. 1923; M.B.A., 1948, Texas. Fields 7, 1a, 8bc.

WALKER, Dilworth, Univ. of Utah, School of Bus., Salt Lake City 1, Utah. (1937) Univ. of Utah, School of Bus., dean; b. 1893; summer, 1915, California; A.B., 1916, Brigham Young; M.A., 1923, Utah State Agric. Col.; Ph.D., 1926, Cornell Univ. Fields 9, 3a, 15a. Doc. dis. Tax Study Committee report (State of Utah, 1946). Pub. Homestead exemption and taxation in Utah (1935); Financing higher education in Utah (1940); Final report, Tax Study Committee (1946). Dir. W.W. in Amer., in Amer. Educa., Dir. of Schol.

WALKER, Francis, 3081 Cleveland Ave., Wash-

ington 8, D.C. (1895) Retired; b. 1870; S.B., 1892, M.I.T.; Ph.D., 1895, Columbia. Fields 12, 14ac, 3. Doc. dis. Double taxation in U.S. (Columbia Univ., 1895). Pub. Monopolistic combinations in German coal industry (A.E.A., 1904); Dir. W.W. in Amer.

WALKER, George Richmond, 120 Boylston St., Boston 16, Mass. (1947) Walker Bldg. Trust, trustee, bus.; b. 1896; A.B., 1918, Harvard. Fields 7, 1a, 6. Pub. "The touch of Midas," Feb., 1944, "Silvio Gesell and free private enterprise," July, 1946, Harper's Mag.; "Postwar jobs—a new approach," Postwar Problems (Amer. Labor Conf. on Int. Affairs), 1945. Res. Nature of economic freedom.

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WALKER, John Earl, 631 Tower Bldg., 14th and K Sts., N.W., Washington, D.C. (1921)

***WALKER, John R.**, 43-01 Westmoreland Ave., Little Neck, L.I., N.Y. (1947)

WALKER, Mabel Louise, 150 Nassau St., New York 7, N.Y. (1928) Tax Inst., exec. dir., res., edit.; A.B., 1926, Barnard Col.; Ph.D., 1930, Johns Hopkins. Fields 9, 15c. Doc. dis. Municipal expenditures (Johns Hopkins Press, 1930). Pub. Urban blight and slums (Harvard Univ. Press, 1938); Tax yields, 1941 (Tax Inst., 1942); "Forces affecting metropolitan patterns," Tax Policy, Jan., 1948.

WALKER, Pinkney Calvin, Univ. of Missouri, 101 B.P.A., Columbia, Mo. (1946) Univ. of Missouri, asso. prof. of econ., teach.; b. 1917; B.B.A., 1939, Texas; M.B.A., 1940, Pennsylvania; summer, 1940, Northwestern; 1946, 1948, Missouri. Fields lab, 9, 7. Pub. "A neglected aspect of housing problem," Amer. Jour. of Econ. and Soc., Apr., 1948.

WALKER, O. Forrest, 157 Highland Ave., Montclair, N.J. (1937) R. H. Macy & Co., econ., dept. head, bus., res., edit.; b. 1892; A.B., M.A., 1915, Albion Col. Fields 11, 12, 14. Pub. "Nature of distribution cost problem," Amer. Mgt. Assn., Jan., 1945; Consumer and "fair-trade" laws (R. H. Macy & Co., 1940). Dir. W.W. in Amer.

WALL, Norman Julian 2928 P St., N.W., Washington 7, D.C. (1936) U.S. Dept. of Agric., Bur. of Agric. Econ., Div. of Agric. Fin., head, govt. serv., res.; b. 1899; B.A., 1922, M.A., 1925, Minnesota; 1929, London School of Econ. Fields 7, 15b, 10. Pub. "Agricultural loans of commercial banks (1936), Monthly index of world industrial production, 1920-35 (1936), Demand deposits of country banks (1937) (U.S. Dept. of Agric.). Dir. W.W. in East.

WALLACE, Donald H., Princeton Univ., Woodrow Wilson School, Princeton, N.J. (1928) Princeton Univ., Woodrow Wilson School of Pub. and Int. Affairs, dir. of grad. program, prof. of econ., dean, teach., res.; b. 1903; A.B., 1924, A.M., 1928, Ph.D., 1931, Harvard. Fields 6, 12, 4ab. Doc. dis. Aluminum monopoly in U.S. Pub. Market control in aluminum industry (Harvard Univ. Press, 1937); Economic standards of government price control (editor and co-author) (TNEC Mono. 32, 1941); "Industrial markets and public policy: some major problems in public policy," in Public policy (Harvard Univ. Press, 1940). Res. Price-wage-profit relations. Dir. W.W. in Amer.

WALLACE E(ibert) S(tephen), 308 McTyre, Jackson 20, Miss. (1941) Millsaps Col., prof. of econ. and bus. admin., registrar, dept. head, teach.; b. 1909; A.B., 1930, Birmingham-Southern Col.; A.M., 1931, Ph.D., 1937, Duke. Fields 7, 12b, 17d. Doc. dis. Federal home loan bank system.

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WALLACE, George S., Jr., 1719 N. Wilber St., South Bend, Ind. (1945)

WALLACE, (John) Roger, 11 McKinley St., Bronxville, N.Y. (1947) Commodity Res. Bur., dir. of econ. res., res., bus., edit.; b. 1902; A.B., 1926, Harvard; 1930, Columbia; 1931-32, 1935-36, U.S.D.A. Grad. School. Fields 6, 14a, 3a. Pub. Materials hand book (WPP, 1942-44).

WALLACE, Raymond Frank, Univ. of Kansas, School of Bus., Lawrence, Kan. (1947) Univ. of Kansas, School of Bus., asso. prof. of indus. mgt., dept. head, teach., res.; b. 1919; B.B.A., 1941, M.B.A., 1945, Texas; 1946-48, Northwestern. Fields 11a, 16, 12. Pub. "Recent trends in personnel selection and induction," Personnel, 1948; "Job analysis, description, and classification," Personnel Jour., 1946; "Guide to literature on personnel management," Texas Personnel Rev., 1946. Res. Management consulting profession (doc. dis.). Dir. W.W. in Amer. Educa.

WALLICH, Henry Christopher, 33 Liberty St., New York 24, N.Y. (1946) Fed. Res. Bank of N.Y., dept. head; b. 1914; 1932-33, Oxford; Ph.D., 1944, Harvard. Fields 10, 4, 7. Doc. dis. Cuban monetary experience 1914-45. Pub. Changing significance of interest rate," Dec., 1946, "Debt management as an instrument of economic policy," June, 1946, A.E.R.; Public debt and income flow (Bd. of Gov. of Fed. Res. System, 1945). Res. Monetary problems of underdeveloped countries; fiscal and credit problems of El Salvador. Dir. W.W. in Com. and Ind.

WALLIN, James R., State Teachers Col., Eau Claire, Wis. (1946)

***WALLIS, Hayden B.**, 23135 Sheridan, Dearborn, Mich. (1946)

WALLIS, W(ilson) Allen, Univ. of Chicago, 307 Haskell Hall, Chicago 37, Ill. (1942) Univ. of Chicago, prof., teach., res.; b. 1912; B.A., 1932, Minnesota; 1933-35, Chicago; 1935-36, Columbia. Fields 1ac, 3ac. Pub. Techniques of statistical analysis (with others) (McGraw-Hill, 1947); "How to ration consumers' goods and control their prices," A.E.R., 1942; "Empirical derivation of indifference functions" (co-author), in Studies in mathematical economics and econometrics (1942). Res. Cyclical behavior of industrial production. Dir. Who Knows—and What.

***WALPIN, Bernard G.**, 1726 Davidson Ave., Bronx, New York 53, N.Y. (1947)

WALSH, Charles Joseph, Fordham Univ., Bronx, New York 58, N.Y. (1937) Fordham Univ., asst. prof.; Res. Inst. of Amer. consul. econ., teach., res., edit.; b. 1909; A.B., 1931, M.A., 1933, Ph.D., 1940, Fordham. Fields 10, 1a, 7. Doc. dis. Effects of restriction and loan programs on foreign markets for American cotton. Pub. "Fiscal policy and inflation," Dec., 1941, "Our confused stabilization program," June, 1946, Thought; "Your business and the Marshall Plan," Res. Inst. of Amer., Oct., 1947.

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WALSH, John Joseph, 1341 Quincy St., N.W., Washington 11, D.C. (1942) Catholic Univ., asst. prof., teach., res.; b. 1882; B.S., 1912, M.A., 1914, Columbia; Ph.D., 1940, Catholic. Fields 1b, 16, 2a. Doc. dis. Early banks in District of Columbia.

WALTER, Edwin J., 375 Park Ave., New York 22, N.Y. (1917)

WALTER, John T., Univ. of Pittsburgh, School of Bus. Admin., Pittsburgh 13, Pa. (1946) Univ. of Pittsburgh, instr., teach.; b. 1911; B.S., 1933, Drexel Inst. of Tech.; M.A., 1939, Columbia; 1942-43, New York. Fields 7, 1a, 17d. Res. Theory of competitive currency devaluation.

WALTERSDORF, Maurice Cleveland, 212 N. Wade Ave., Washington, Pa. (1925) Washington

and Jefferson Col., Dept. of Econ., chmn., prof., teach., res.; b. 1888; A.B., 1916, Franklin and Marshall; A.M., 1922, Ph.D., 1925, Princeton. Fields 13ab, 16, 9. Doc. dis. Regulation of public utilities in New Jersey (Waverly Press, 1936), Pub. "Public utility rate making in New Jersey," 1926, "Going value in utility valuation," 1926, A.E.R.; "Holding company in American utility development," British Econ. Jour., 1926. Dir. W.W. in Amer., among North Amer. Authors, Dir. of Schol., Lead in Educa.

WALTON, (Mrs.) Ina Thomas, 2208 Sherman Ave., Evanston, Ill. (1936)

WANDEL, William Hamlin, 1802 N. Wakefield St., Arlington, Va. (1929) Fed. Security Agency, Bur. of Employ. Security, Program Div., chief, govt. serv.; b. 1906; B.S., 1928, Pennsylvania; M.S., 1931, Ph.D., 1935, Columbia. Fields 17b, 12b, 8c. Doc. dis. Control of competition in fire insurance (privately published, 1935). Pub. Life insurance in Virginia (1929), Workmen's compensation and auto liability insurance in Virginia (1932) (Century Co.); Social Security Act in operation (Graphic Arts Press, 1937). Res. Unemployment insurance.

*WANG, Shang-Chuen, 5659 S. Woodlawn, Chicago 37, Ill. (1944) Univ. of Chicago, student, res.; b. 1918; M.A., 1948, Nankai Inst. of Econ. Fields 1a, 7, 10.

WAPLES, Eliot Otto, Midland Mortgage Co., 616-620 Merchants Nat. Bank Bldg., Cedar Rapids, Iowa. (1942) Midland Mortgage Co., vice-pres., secy., bus.; b. 1916; B.A., 1938, Iowa; summer, 1935, Coe Col.; Ph.D., 1946, Wisconsin. Fields 15ab, 7, 10. Doc. dis. Farm ownership processes in a low tenancy area (extracts, Univ. of Wisconsin, Farm Found. and Bur. of Agric. Econ., 1947). Pub. Keeping farm in family (with K. H. Parsons) (Univ. of Wisconsin Agric. Exp. Sta. Res. Bul. 157, 1945); "Land prices during World War II in eleven Indiana counties, 1941-44 (Purdue Univ. Agric. Exp. Sta., 1945).

**WARBURTON, Amber Arthun (Mrs. Clark A.), McLean, Va. (1941)

WARBURTON, Clark A., McLean, Va. (1922)

WARD, Frank Bird, 400 Forest Hills Blvd., Knoxville 16, Tenn. (1924) Univ. of Tennessee, Dept. of Econ., dept. head, prof., teach.; b. 1894; Ph.B., 1917, Denison; A.M., 1920, Cincinnati; summer, 1921, Ohio State; Ph.D., 1926, Pennsylvania. Fields 16, 1a, 2b. Doc. dis. U.S. Railroad Labor Board and railway labor disputes. Dir. W.W. in Amer.

WARD, James Edward, Jr., George Peabody Col. for Teachers, Nashville 4, Tenn. (1934) George Peabody Col. for Teachers, dept. head, teach., res.; b. 1907; B.S., 1929, M.S., 1931, Ph.D., 1935, Virginia; 1932-33, Harvard. Fields 16, 1a, 9. Doc. dis. Thomas Jefferson's contributions to American agriculture, Pub. "Jefferson and American agriculture," Univ. of Virginia News Letters, Apr., 1943; "Monticello: an experimental farm," Agric. Hist., Apr., 1945; "Economic value of a well-rounded educational program in the South," Peabody Jour., Mar., 1948. Dir. W.W. in Amer. Educa.

WARD, James F., 840 Michigan Ave., Evanston, Ill. (1947)

WARDWELL, Allen, 15 Broad St., New York, N.Y. (1912) Davis, Polk, Wardwell, Sunderland & Kiendl, partner; b. 1873; A.B., 1895, Yale; LL.B., 1898, Harvard. Fields 17bc, 16, 7. Dir. W.W. in Amer.

WARDWELL, Charles Annsnon Randlett, 4143 N. 25th St., Arlington, Va. (1929)

WARE, Norman Joseph, 114 Lafayette St., Milford, Conn. (1948) Univ. of Bridgeport, School of Bus. Admin., asso. prof., acting head of dept., teach., res.; b. 1886; A.B., 1908, McMaster; B.D., 1910, Ph.D., 1913, Chicago. Fields 16, 1b, 2a. Doc. dis. The physiocrats (A.E.R., Dec., 1931). Pub. Labor movement, 1860-65 (Appleton, 1929); Industrial worker, 1840-60 (Houghton Mifflin, 1924); Labor in modern industrial society (Heath, 1935). Res. Introduction to course in elementary economics. Dir. W.W. in Amer.

WARING, Frank Arnold, Philippine War Damage Com., APO 900, c/o Postmaster, San Francisco, Calif. (1935) U.S. Philippine War Damage Com., chmn., govt. serv.; b. 1901; B.S., 1924, M.A., 1930, Ph.D., 1932, California. Fields 7, 10, 8. Doc. dis. Banks and banking in Mexico (Mexican Bankers' Asso., 1930). Pub. Latin America as source of strategic and other essential materials (U.S. Tariff Com., 1941); Economic problems of other American republics (McGraw-Hill, 1944); "Sterling exchange and blocked balances," For. Com. Weekly, 1945. Dir. Dir. of Schol.

WARK, Robert, c/o Banner Cross Hall, Sheffield 11, England. (1946)

WARNE, Colston Estey, 77 Dana St., Amherst, Mass. (1948) Amherst Col., prof.; Consumers Union of U.S., pres., teach., res.; b. 1900; A.D., 1920, M.A., 1921, Cornell Univ.; Ph.D., 1925, Chicago. Fields 16, 4, 17d. Doc. dis. Consumers co-operation in Illinois (Univ. of Chicago Press, 1926). Pub. Labor problems in America (co-author) (Farrar and Rinehart, 1940). Dir. Dir. of Schol., Lead. in Educa.

WARNE, Frank Julian, 1520 H St., N.W., Washington, D.C. (1915)

WARNER, Aaron W., 401 W. 118th St., New York, N.Y. (1947) Columbia Univ., lecturer in econ., dept. head, teach., res.; b. 1908; B.A., 1929, New York; LL.B., 1932, Harvard. Fields 16, 12b, 1a. Res. Changes in policies and responsibilities of trade unions under governmental policy of full employment (doc. dis.)

WARNER, Adolphe J., Office of Fin. Adviser, OMGUS, APO 742, c/o Postmaster, New York, N.Y. (1947) Office of Fin. Adviser, OMGUS, Berlin, Germany, govt. serv.; b. 1917; B.A., 1933, Goethe Gymnasium, Frankfurt; 1942-43, Illinois. Fields 8ab, 7, 10. Res. German currency reform, particularly in fields of banking and insurance.

WARNER, Donald A., 122 Caryl Ave., Yonkers 5, N.Y. (1946) Amer. Tel. & Tel. Co., res.; b. 1917; B.A., 1939, Yale. Fields 6, 14, 13.

WARNER, Florence M., Connecticut Col., New London, Conn. (1945)

§WARNER, Philip John, 15 E. 26th St., New York 10, N.Y. (1911)

WARNER, Robert Keeler, University Club, Washington, D.C. (1932)

WARNER, Wellman J., New York Univ., Box 23, University Heights, New York 53, N.Y. (1935)

WARNING, Donald S., 2115 Lincolnwood Dr., Evanston, Ill. (1946)

WARREN, David Mathias, Box 428, Panhandle, Texas. (1944) First Nat. Bank, pres.; Panhandle State Bank, chmn. of bd.; Panhandle Herald, pub. and owner, bus.; b. 1894; B.J., 1918, Missouri. Fields 11ab, 8a.

WARREN, Edgar L., Univ. of California, Inst. of Ind. Rela., Los Angeles 24, Calif. (1943) Inst. of Ind. Rela., dir., dept. head, res.; b. 1904; A.B., 1926, Bethany Col. Fields 16, 12, 4. Pub. "Conciliation service—V-J Day to Taft-Hartley," Ind. and Labor Rela. Rev., Apr., 1948; "Conciliation services in labor relations," Annals of Amer. Acad. of Polit. and Soc. Sci., Nov., 1946; "Hired farm labor under minimum wage and maximum hours regulation," Jour. of Farm Econ., Feb., 1942. Res. Effectiveness of procedures for settlement of labor-management disputes. Dir. W.W. in Amer.

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WARREN, Gerald Emery, Tulane Univ., Col. of Com., Dept. of Econ., New Orleans 15, La. (1943) Tulane Univ., asso. prof., teach.; b. 1914; B.A., 1935, Southwestern; M.A., 1936, Ph.D., 1938, Iowa. Fields 7, 12, 1ab. Doc. dis. Role of reserves in control of bank credit (Jour. of Bus., 1938). Pub. "Cost of defense," Ind. Acad. of Soc. Sci., 1941. Res. Leather industry survey; economics of regulated industry.

- WARREN, Samuel Enders, Southern Univ., Southern Br. P.O., Box 9360, Baton Rouge, La. (1948) Southern Univ. and A. and M. Col., Soc. Sci. Dept., prof., dept. head, teach., res.; b. 1903; A.B., 1925, Allegheny; A.M., 1929, Ph.D., 1942, Wisconsin. Fields 16, 4, 2. Doc. dis. Negro in American labor movement. Pub. "Background and analysis of two different efforts to integrate Negro workers into American labor movement, 1860-81," Southern Univ. Bul., Feb., 1948; "A partial background for study of development of Negro labor: an adventure in teaching certain aspects of American labor history," Jour. of Negro Hist., Jan., 1940; "What are best methods of teaching controversial issues in atomic age?" Quar. Jour. of Higher Educa., July, 1946. Res. Resource development in Southwest; Negro labor leaders and labor strategy; consumer problems and consumer co-operation; economic concepts for socio-economic efficiency.
- WARRINGTON, William Edward, Logan Hall, 36th and Woodland Ave., Philadelphia 4, Pa. (1935) Univ. of Pennsylvania, Wharton School, asso. prof. of fin., dept. head, teach., res.; b. 1892; B.S., 1915, A.M., 1916, Ph.D., 1932, Pennsylvania. Fields 8ab, 11a, 13ab. Doc. dis. Nature and extent of losses to bondholders in corporate reorganization, 1919-28. Pub. Business corporation (joint author) (Appleton-Century, 1941); Significant developments of war period in corporation finance (Amer. Col. of Life Underwriters, 1945). Res. Corporation finance.
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- WARTERS, Dennis Noel, Bankers Life Insurance Co., Des Moines 7, Iowa. (1934) Bankers Life Co., exec. vice-pres., bus.; b. 1896; B.A., 1917, Manitoba. Fields 8, 11, 17abc. Dir. W.W. in Com. and Ind.
- WASHBURN, Horace H., Univ. of Wichita, Wichita 6, Kan. (1944) Univ. of Wichita, teach.; b. 1906; B.S.C., 1930, Wyoming; M.A., 1933, Iowa; Ph.D., 1944, Wisconsin. Fields 7, 6, 8. Doc. dis. Co-operative credit for consumer.
- WASSERMAN, Max Judd, 1422 Longfellow St., N.W., Washington 11, D.C. (1946) Dept. of Com., Office of Int. Trade, staff econ.; Howard Univ., visiting prof. of econ.; teach., govt. serv.; b. 1895; A.B., 1918, Cornell Univ.; A.M., 1921, Illinois; Doctorate in Econ., 1925, Univ. of Lyons (France). Fields 10, 1b, 12b. Doc. dis. L'Oeuvre de la federal trade commission (Marcel Giard, Paris, 1925). Pub. "Inflation and enterprise in France, 1919-26," J.P.E., Apr., 1934; "Compression of wholesale prices during inflation in France, 1919-26," Mar., 1936, "International Bank, an instrument of world economic reconstruction," Mar., 1947, A.E.R. Res. International tax treaty program of U.S.; financing U.S. exports and imports. Dir. W.W. in East, in Com. and Ind.
- WASSON, Robert C., 3150 Bueno Vista Ter., S.E., Apt. 4, Washington 20, D.C. (1941)
- WATERS, Lawrence Leslie, 1629 Alabama, Lawrence, Kan. (1937)
- WATERS, Richard Hadly, 226 Adams Ave., State College, Pa. (1938) Pennsylvania State Col., asso. prof. of econ., teach., res., edit.; b. 1908; B.S. in Econ., 1928, A.M., 1929, Ph.D., 1937, Pennsylvania; 1930-33, Pennsylvania State Col. Fields 13b, 1a, 3a. Doc. dis. Competition in transportation (privately printed, 1937).
- *WATERS, William Roland, 2209 Cecil Ave., Baltimore 18, Md. (1948) Loyola Col., instr., teach.; b. 1920; A.B., 1942, Loyola Col. (Baltimore); 1946-48, Georgetown. Fields 1, 4, 2.
- WATERSTON, Albert, 2114 Sutherland Ter., S.E., Washington 20, D.C. (1947) Int. Bank for Reconstruction and Development, econ., govt. serv., teach., res., bus.; b. 1907; 1927, Brooklyn Law School; B.A., 1937, New York; M.A., 1939, Columbia. Fields 10, 14, 7. Pub. "Price control of used refrigerators," Electrical Merchandising, Aug. 1942. Res. Economics of Belex countries.
- WATKINS, Cameron D., 4110 Illinois Ave., N.W., Washington, D.C. (1946)
- WATKINS, Gordon S., Univ. of California, Los Angeles 24, Calif. (1917) Univ. of California, prof., teach., res.; b. 1889; A.B., 1914, LL.D., 1940, Montana; A.M., 1915, Illinois; Ph.D., 1918, Pennsylvania. Fields 16, 1b, 4a. Doc. dis. Revenue system of Delaware County, Pennsylvania (Flaigan-Pearson, 1918). Pub. Labor Problems (Crowell, 1922, 1929); Labor management (McGraw-Hill, 1928); Labor problems and labor administration in U.S. during World War I (Univ. of Illinois Press, 1919). Res. Socio-economic criticism and reform; wage movements, technological improvement and employment in American railroad industry. Dir. W.W. in America, Lead. in Educa.
- WATKINS, John Brownson, 405 Wesley Ave., Oak Park, Ill. (1925)
- WATKINS, Leonard Lyon, Univ. of Michigan, Dept. of Econ., Ann Arbor, Mich. (1922)
- WATKINS, Myron Webster, Nod Hill, R.F.D. 1, Stamford, Conn. (1915) Twentieth Century Fund, co-dir., res.; b. 1893; A.B., 1914, Michigan; Ph.D., 1917, Cornell Univ. Fields 12, 1b, 14a. Doc. dis. Work of Jean-Baptiste Say. Pub. Industrial combinations and public policy (Houghton Mifflin, 1927); Oil: Stabilization or conservation? (Harper, 1937); Public regulation of competitive practices (Nat. Ind. Conf. Bd., 3rd. ed. 1940). Res. Monopoly problem in U.S.; cartels or competition. Dir. W.W. in Amer. Dir. of Schol., Lead. in Educa.
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WEBER, Adna Ferrin, 85-21 114th St., Richmond

Hill 18, N.Y. (1896) Retired; b. 1870; Ph.B., 1894, 1894-95, Cornell Univ.; Ph.D., 1899, Columbia; 1895-96, Univ. of Berlin. Fields 17a, 15d, 16. Doc. dis. Growth of cities in 19th century (Macmillan, 1899). Pub. Compensation of workmen for accidental injury (Bur. of Labor Statis. Report, 1899). Dir. W.W. in Amer.

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WEBER, Herbert Jacob, 3000 Connecticut Ave., Apt. 122-B, Washington 8, D.C. (1945) War Assets Admin., statis., econ., res., govt. serv.; b. 1903; A.B., 1925, Harvard. Fields 4ab, 3a, 17b.

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WEEKS, Dale H., Nebraska Wesleyan Univ., Lincoln 4, Neb. (1945) Nebraska Wesleyan Univ., prof., dept. head, teach.; b. 1916; B.A., 1938, M.A., 1940, Iowa; summer, 1941, Minnesota; 1945-48, Nebraska. Fields 13ab, 1a, 11b. Res. Some economic aspects of Missouri Valley developments (doc. dis.).

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- WELLISZ, Leopold, 120 Gabrini Blvd., New York 33, N.Y. (1943) Jacquin, Bliss and Stanley, partner, bus.; b. 1882; 1902, Warsaw 1901, Cracow (Poland); 1904, Paris (France); B.S., 1911, Kieff (Russia). Fields 2b, 11a, 10. Pub. Foreign capital in Poland (Allen and Unwin, 1938); "Problems of postwar economic reconstruction of Poland," World Econ., 1944; "Industry, foreign trade and communications," in Poland (Univ. of California Press, 1945).
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- WELSH, Edward Cristy, Chief, Antitrust Div., GHQ-SCAP-ESS, APO 500, c/o Postmaster, San Francisco, Calif. (1935)
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- WELTMER, W. Keith, Univ. of Kansas, School of Bus., Lawrence, Kan. (1947)
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WENZLER, George Herman, 8917 189th St., Hollis, L.I. 7, N.Y. (1946) Marketing research, bus.; b. 1916; B.S., 1941, 1944-46, New York; 1946-48, Columbia. Fields 11b, 3a, 1a.

WENZLICK, Roy, 706 Chestnut St., St. Louis 1, Mo. (1938) Roy Wenzlick & Co., head; Real Estate Analyst, editor; bus., edit., res.; b. 1894; A.B., 1916, Westminster Col.; 1916-17, Princeton; Ph.D., 1942, St. Louis. Fields 15c, 3, 6. Doc. dis. Fluctuations in urban rents, their causes and implications (Univ. Microfilms, Ann Arbor). Pub. The coming boom in real estate (Simon and Schuster, 1936); 1930 federal census for metropolitan St. Louis (Res. Com., St. Louis Community Coun., 1932); "Problem of analyzing local real estate cycles," Jour. of Amer. Statist. Asso., 1933. Dir. W.W. in Amer.

WERMEL, Michael T., Bur. of Employ. Sec., Program Div., Soc. Sec. Admin., Washington, D.C. (1936)

WERNER, Ray Orval, Box 514, Deweese, Neb. (1946) Colorado Col., instr., teach.; b. 1922; B.A., 1942, Hastings Col.; 1942-43, Tennessee; M.A., 1947, Nebraska; 1947-48, Illinois. Fields 1ab, 16, 4.

WERNETTE, (John) Philip, Univ. of New Mexico, Albuquerque, N.M. (1927)

WESSON, William Hinton, Jr., Univ. of Chattanooga, Dept. of Econ. and Com., Chattanooga 3, Tenn. (1947) Univ. of Chattanooga, asso. prof., dept. head, teach., res.; b. 1915; B.S., 1936, North Carolina State Col.; 1936-38, Johns Hopkins; 1941-42, 1946-48, Duke. Fields 16, 1ab, 11c. Res. Salaries and wages of state government employees (doc. dis.).

WEST, C. H., Box 152, Sunol, Calif. (1926)

WEST, Miriam Esther, New Jersey Col. for Women, New Brunswick, N.J. (1927)

WEST, Robert James, 206 Devonshire Apts., 1504 N. Prospect Ave., Milwaukee, Wis. (1936)

WEST, Robert R., Box 1085, Chappaqua, N.Y. (1941)

WEST, Sidney D., Jr., Univ. of Georgia, Col. of Bus. Admin., Athens, Ga. (1947)

WESTFELD, Albert, Opinion Res. Corp., 44 Nassau St., Princeton, N.J. (1944) Opinion Res. Corp., project dir., res., bus.; b. 1913; A.B., 1935, A.M., 1936, Ph.D., 1943, Columbia. Fields 16, 11b. Doc. dis. Getting started: urban youth in labor market (WPA Res. Mono. XXVI, 1943).

WESTERFIELD, Ray Bert, 115 Rogers Rd., Hamden, New Haven 14, Conn. (1912) Yale Univ., prof.; First Fed. Savings and Loan Asso. of New Haven, pres.; teach., bus.; B.A., 1907, S.D. (Hon.), 1935, Ohio Northern; Ph.D., 1913, Yale. Fields 7, 8, 11b. Doc. dis. Middlemen in English business, 1660-1760 (Conn. Acad. of Arts and Sci., 1915). Pub. Money, credit and banking (Ronald Press, 1938, 1947); Branch banking (Harper, 1940); Incidence and effects of federal corporate income tax (Nat. Indus. Conf. Bd., 1929). Res. Investment banking. Dir. W.W. in Amer. Lead. in Educa., Int. W.W.

WESTERLUND, Barton A., Univ. of Miami Br., P.O. Box 233, Miami, Fla. (1948)

WESTHAGEN, Milton Horace, 3743 N. Tripp Ave., Chicago 41, Ill. (1947) Veterans Admin., chief of res., dept. head, res., teach.; b. 1909; D.S., 1933, M.S., 1939, M.B.A., 1941, Ph.D., 1946, Northwestern. Fields 9, 3ac, 1ab. Doc. dis. Theory of obsolescence of buildings: its relation to public finance, education, and other services of community, with special reference to Chicago.

WESTMEYER, Russell Eugene, Univ. of Arkansas, Col. of Bus. Admin., Fayetteville, Ark. (1948). Univ. of Arkansas, prof. of bus. admin., teach., res.; b. 1901; B.S., 1927, M.S., 1928, Ph.D., 1930, Iowa. Fields 13b, 4a, 17d. Doc. dis. Federal regulation of railroad construction and abandonments. Pub. Modern economic and social systems (Rinehart, 1940). Res. General transportation.

WESTON, Janet Louise, 808 W. Park Ave., Champaign, Ill. (1940) Univ. of Illinois, asst. prof. of econ., Personnel Bur., coun., teach.; b. 1905; B.A., 1927, M.A., 1928, Illinois; Ph.D., 1930, Stanford. Fields 16, 9, 3. Doc. dis. Relations between

variations income tax rates and in reported individual incomes. Pub. "Farm real estate taxes since 1913," Bul. Nat. Tax Asso., Dec., 1934; "Consumer problem in defense era," Opinion and Comment, Feb., 1942; Consumer's bid for social recognition (Dec., 1939). Res. Correlation of psychological test scores and commerce student achievements. Dir. W.W. in Ill.

WESTON, (John) Frederick, Univ. of Chicago, School of Bus., Chicago 37, Ill. (1941) Univ. of Chicago, School of Bus., asst. prof. of fin., teach., res.; b. 1916; B.A., 1937, M.B.A., 1942, Ph.D., 1948, Chicago. Fields 8bc, 7, 1a. Doc. dis. Economic and accounting concepts of profit. Pub. "Competitive bidding on new issues of corporate securities," Jour. of Bus., 1942. Res. Role of profit in a price economy; economic analysis of insurance industries.

*WEXLER, Harvey Joseph, 355 E. Chester St., Long Beach, L.I., N.Y. (1947) New York Univ., grad. asst., teach., res.; b. 1928; B.S., 1947, M.B.A., 1948, New York. Fields 2, 1ab, 7. Res. "Business opinion between 1840 and 1860."

*WEXLER, Hilda Jane, 4817 N. Capitol St., Washington 11, D.C. (1946) Ency. Britannica, res. fellow, res., edit.; b. 1920; B.A., 1940, Hunter; 1943-47, American; 1947-48, Chicago. Fields 13c, 14, 12a. Res. Economic concentration in radio broadcasting industry; economic history of mass communications in U.S. (doc. dis.).

WEXMAN, Joseph Kent, 6447 S. Halsted St., Chicago 21, Ill. (1944) Univ. of Chicago, lecturer in bus.; Phoenix Fin. Co., pres.; teach., bus.; Ph.B., 1929, Chicago. Fields 7, 11a. Pub. "Financial advice and guidance for small business," Law and Contemp. Prob., 1945; Special problem of small business (collab.) (C.E.D., 1947).

WEYFORTH, William Oswald, Johns Hopkins Univ., Baltimore 18, Md. (1915) Johns Hopkins Univ., asso. prof. polit. econ., teach., res.; b. 1889; A.B., 1912, Ph.D., 1915, Johns Hopkins. Fields 7, 6, 10. Doc. dis. Organizational labor (Johns Hopkins Press, 1917). Pub. Federal Reserve Board (Johns Hopkins Press, 1933). Dir. W.W. in East.

WEYGINT, Nancy Bruner (Mrs. John R.), Western Auto Supply Co., 2107 Grand, Kansas City 8, Mo. (1944) Western Auto Supply Co., stat., res.; b. 1921; B.A., 1942, Kansas City; M.A., 1943, Iowa. Fields 3ab, 11ab, 6. Pub. "Note on Doolittle solution," Econometrica, Jan., 1947; "A second moment correction" (with G. R. Davies), Amer. Statist. Jour., Mar., 1943; "Fundamentals of correlation," Amer. Soc. for Quality Control Proceed., June, 1947. Res. Mathematical evaluation of a retail store location.

WEYL, Nathaniel, 1505 28th St., N.W., Washington, D.C. (1946)

WHALEN, Oren L., 208 W. Washington, Urbana, Ill. (1925)

WHALEY, Otis, Henderson State Teachers Col., Dept. of Econ. and Bus. Admin., Arkadelphia, Ark. (1938)

WHEELAN, Frank N., 8241 Woodbine Ave., Cincinnati 15, Ohio. (1944) B. 1891; B.S., 1932, Iowa State Col.; M.S., 1933, Maryland; Ph.D., 1939; Wisconsin. Fields 17bcd, 7, 6. Doc. dis. Use of consumer credit: a phase of mass education (summary, Univ. of Wisconsin, 1940). Pub. "Social needs and curriculum," Soc. Educa., Jan., 1938; "Mental health for teachers," Teachers Forum, 1942. Res. Outlooks as needed by the private citizen. Dir. Lead. in Educa., W.W. in World.

WHEELER, Bayard O., 1910 E. Lynn St., Seattle 2, Wash. (1937)

WHEELER, Oliver P., Fed. Res. Bank of San Francisco, Div. of Res., San Francisco, Calif. (1937)

WHELAN, Carl Joseph, 3600 S St., N.W., Washington, D.C. (1929) U. S. Tariff Com., govt. serv.; b. 1894; A.B., 1922, A.M., 1924, Ph.D., 1934, Princeton. Fields 13, 10, 14. Doc. dis. Differential rates in electric power industry.

WHELPONT, Pascal Kidder, Scripps Found., Oxford, Ohio. (1920) Miami Univ., Scripps Found. for Res. in Population Prob., asso. dir., res., govt. serv.; b. 1893; B.S., 1915, 1923, Cornell Univ.;

- 1919-20, Nebraska. Fields 17a, 15b, 3a. Pub. Forecasts of population of U.S., 1945-75 (Bur. of Census, 1947); Social and psychological factors affecting fertility (with C. V. Kiser) (Milbank Memorial Fund, 1946); Needed population research (Science Press Prtg. Co., 1938). Res. Social and psychological factors affecting fertility; proficiency tables for U.S. women. Dir. W.W. in Amer., Dir. of Schol.
- WHIPPLE**, Clayton E., Littleworth, Clinton, Md. (1944)
- WHITAKER**, Benjamin Palmer, Union Col., Schenectady 8, N.Y. (1925) Union Col., prof., teach.; b. 1899; A.B., 1921, Colgate; 1921-23, New York; M.A., 1925, Ph.D., 1931, Yale; L.H.D., 1947, Union. Fields 9, 8, 7. Doc. dis. Gross earnings as bases of corporate taxation. Res. Revision of Fairchild, Furniss, and Ruck, Economics. Dir. W.W. in Amer.
- WHITE**, Alvin Charles, 1078 N. Broad St., Galesburg, Ill. (1947) Knox Col., asso. prof., teach.; b. 1912; A.B., 1933, Augustana; M.A., 1935, Iowa; Ph.D., 1943, Illinois. Fields 1ab, 2a, 9. Doc. dis. Economic analysis of housing problem in U.S.
- WHITE**, Charles P., Univ. of Tennessee, School of Com., Knoxville, Tenn. (1934)
- WHITE**, Donald Joseph, 83 Upland Rd., Quincy 69, Mass. (1947) Boston Col., instr., teach., res.; b. 1922; B.S., 1943, Boston Col.; M.A., 1946, Harvard. Fields 16, 14, 7. Res. Industrial relations in New England fishing industry (doc. dis.).
- WHITE**, Henry Ford, Box 391, Siloam Springs 1, Ark. (1945) John Brown Univ., B.S., 1920, Sam Houston State Teachers Col.; M.A., 1921, Baylor; Ph.D., 1931, Texas; 1942, Peabody Teachers Col. Fields 2a, 8b, 15b. Doc. dis. Early economic and social development of Arkansas. Pub. Farmer and economic progress (1947), Co-operative marketing of farm products in U.S. (1937), Agricultural problems and policies (1947) (John Brown Univ. Press). Res. Education in terms of this changing economic world. Dir. W.W. in Amer.
- WHITE**, J. Austin, Union Central Bldg., Cincinnati 2, Ohio. (1945) J. A. White and Co., owner, bus.; b. 1913; B.S., 1934, Ohio State; 1930-31, Georgia School of Tech. Fields 8b, 9, 7. Pub. An analysis of municipal bonds (J. A. White & Co., 1942); "Prospects of inflation," May, 1945, "Municipal bond prices today and tomorrow," Nov., 1943, Com. and Fin. Chron. Dir. W.W. in Central States.
- WHITE**, Melvin Irvin, 1007 Hopewell Ave., Kentland Village, Takoma Park 12, Md. Coun. of Econ. Advisers, staff econ., govt. serv.; b. 1918; A.B., 1943, Cincinnati; Ph.D., 1948, Columbia. Fields 9, 5, 7. Doc. dis. Personal income tax reduction in a business contraction.
- WHITE**, Wilford Lenfestey, 3131 Nebraska Ave., N.W., Washington, D.C. (1922)
- WHITEHEAD**, Frances M., Western Illinois State Col., Macomb, Ill. (1945) Western Illinois State Col., asst. prof., teach.; B.S., 1928, M.S., 1931, Ph.D., 1942, Illinois. Fields 16, 2a, 1b. Doc. dis. Hours and wages of retail clerks in Illinois (outside Chicago). Dir. W.W. in Midwest.
- WHITEHILL**, Arthur M., Jr., Univ. of Virginia, Univ. Sta., Charlottesville, Va. (1945)
- WHITLO**, Charles Milton, Univ. of Southern California, Col. of Com., Los Angeles 7, Calif. (1946) Univ. of Southern California, prof., dept. head, teach., res.; b. 1904; B.S.C., 1928, North Dakota; M.S., 1929, New York; Ph.D., 1937, Illinois. Fields 11b, 1a, 2a. Doc. dis. Prices and yields of French securities, 1914-30. Res. Retail merchandising.
- WHITLOW**, Claude John, 435 Canby St., P.O. Box 396, Vermillion, S.D. (1946) Univ. of South Dakota, prof. of econ., teach., res.; b. 1897; A.B. 1921, A.M., 1924, South Dakota; Ph.D., 1941, Michigan. Fields 9, 1ab, 7. Doc. dis. Property tax in South Dakota (South Dakota Hist. Soc., 1942). Pub. South Dakota state government tax revenue, 1930-31 to 1940-41 (1943), Significant developments in South Dakota tax policy during nineteen thirties (1945) (Bus. Res. Bur., Univ. of South Dakota).
- WHITMAN**, Marcus Lafayette, Box 907, University, Ala. (1929)
- WHITMAN**, Roswell Hartson, 1940 Biltmore St., N.W., Washington, D.C. (1934)
- WHITMAN**, William Tate, Emory University, Ga. (1940) Emory Univ., School of Bus. Admin., asso. prof., teach., res.; b. 1909; A.B., 1929, M.A., 1933, Ph.D., 1943, Duke. Fields 16, 1b, 12b. Doc. dis. Potential volume of employment in forest industries of the South under conditions of optimum utilization.
- WHITNEY**, Nathaniel Ruggles, 975 Willow Ave., Glendale, Ohio. (1911) Procter & Gamble Co., head econ.; b. 1882; A.B. 1906, Gettysburg Col.; Ph.D., 1913, Johns Hopkins.
- WHITNEY**, Ramey C., Univ. of Nebraska, 210 Soc. Sci. Bldg., Lincoln, Neb. (1946) Univ. of Nebraska, Col. of Bus. Admin., asso. prof., teach., res.; b. 1908; 1927-29, Nebraska Wesleyan; B.S., 1931, M.A., 1936, Nebraska; Ph.D., 1946, Minnesota. Fields 15abc, 1a, 4. Doc. dis. Farm income, investment, and value of farm land in Missouri (abstract, Univ. of Minnesota, 1946). Pub. "State ownership of school lands in selected areas of Colorado and Nebraska," Jour. of Farm Econ., Nov., 1937; "Are land prices too high in Missouri," Kansas City Weekly Star, May, 1946. Dir. W.W. in Amer. Educa.
- WHITNEY**, Simon Newcomb, New York Univ., Univ. Col., Dept. of Econ., New York 53, N.Y. (1927) New York Univ., asso. prof., teach.; b. 1903; B.A., 1924, Ph.D., 1931, Yale. Fields 10, 12a, 8b. Doc. dis. Trade associations and industrial control (Central Book Co., 1934). Dir. W.W. in Com. and Ind.
- WHITSETT**, James M., Western Reserve Univ., Cleveland Col., Cleveland 14, Ohio. (1937) Western Reserve Univ., asso. prof., teach.; b. 1905; B.A., 1926, Texas; M.A., 1929, Ph.D., 1938, Ohio State. Fields 7, 8ab, 1. Doc. dis. Banking operations in Ohio: 1920-40 (Ohio State Univ., 1941). Pub. Ohio bank suspensions and liquidations, 1920-37 (Ohio State Univ., 1938).
- WHITTAKER**, Edmund, Colorado A. and M. Col., Dept. of Econ., Soc. and Hist., Fort Collins, Colo. (1946) Colorado A. and M. Col., prof. of econ., teach.; b. 1897; B.S., 1928, Ph.D., 1932, Univ. of Edinburgh (Scotland). Fields 1ab, 2a, 4b. Doc. dis. Study of profits. Pub. History of economic ideas (1940), Elements of economics (1946) (Longmans, Green); "Some fundamental questions on economic planning," South African Jour. of Econ., 1935. Res. Social control and planning. Dir. Dir. of Schol.
- WHITTEN**, John W., 2801 Edgehill Dr., Los Angeles, Calif. (1947)
- WHITTEN**, William Marion, 2308 McDonough Rd., Wilmington 56, Del. (1942) Retired; b. 1872; B.S., 1895, Michigan; M.S., 1897, Kansas. Fields 10, 16, 1a. Doc. dis. Philosophy of American patent (Chemical and Engineering News, Sept. 1946).
- WHITTLESEY**, Charles Raymond, 340 Avonbrook Rd., Wallingford, Pa. (1925) Univ. of Pennsylvania, prof.; Penn Mutual Life Ins. Co., econ.; teach., res., bus.; b. 1900; A.B., 1921, Philomath Col.; A.M., 1924, American Univ. of Beirut; Ph.D., 1928, Princeton. Fields 7, 10. Pub. International monetary issues (McGraw-Hill, 1937); National interest and international cartels (1946), Principles and practices of money and banking (1948) (Macmillan). Res. Money and banking. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.
- WICHMANN**, Arthur Adolf, 1725 Orrington Ave., Apt. 521, Evanston, Ill. (1941) Northwestern Univ., grad. teach. asst.; b. 1916; B.S., 1937, South East Missouri State; M.B.A., 1942, 1947-48, Northwestern. Fields 7, 9, 6. Res. Comparative study of employment and business cycle theories.
- WICK**, James Lester, Woodward Hotel, 55th St. and Broadway, New York 19, N.Y. (1944) Niles Ohio Daily Times, chmn. of bd.; Valley City North Dakota Daily Times Record, chmn. of bd.; Roanoke Rapids North Carolina Herald, chmn. of bd.; Bogalusa Louisiana Daily News, chmn. of bd.; bus.; b. 1897; B.A., 1925, Minnesota. Fields 11, 6, 16.

- **WICKENS, Arnyne Joy (Mrs. David L.),** R. 2, Vienna, Va. (1944) U.S. Dept. of Labor, Bur. of Labor Statis., asst. com. for program operations, govt. serv.; b. 1901; A.B., 1922, Univ. of Washington; A.M., 1924, Chicago. Fields 3, 16, 7. Dir. W.W. in East, Dir. of Schol.
- WICKENS, David Lawrence,** R. 2, Vienna, Va. (1933)
- WICKER, Elmus Rogers,** 233 Harrison St., Lake Charles, La. (1946)
- WICKIZER, Vernon Dale,** Stanford Univ., Food Res. Inst., Stanford, Calif. (1943) Stanford Univ., Food Res. Inst., econ., prof., res., teach., edit.; b. 1904; G.R., 1925, U.S. Naval Acad.; M.B.A., 1929, Stanford. Fields 10, 15bd. Pub. Tea under international regulation (1944), World coffee economy, with special reference to control schemes (1943), Rice economy of monsoon Asia (With M. K. Bennett) (1941) (Food Res. Inst.). Res. Impact of war on coffee, tea, and cocoa.
- WIDENMANN, Hans A.,** 61 Broadway, New York 6, N.Y. (1947) Carl M. Loeb, Rhoades & Co., partner; b. 1897; Litt. B., 1918, Princeton; M.A., 1919, M.S.C., 1920, Columbia. Fields 6, 8, 7. Doc. dis. Foreign exchange problem (Columbia Trust Co., 1920). Pub. Sources of funds for business expansion—the market (Amer. Mgt. Asso., 1948); Venture capital (Conf. of Bus. Econ., 1948).
- WIEDEMAN, Harold C.,** U. S. Civil Serv. Com., Denver, Colo. (1942)
- WIENER, Robert J.,** 3325 N. E. Couch St., Portland 15, Ore. (1944) Nat. Labor Rel. Bd., officer in charge (sub-region), govt. serv.; b. 1903; A.B. 1930, Yale; M.A., 1937, American. Fields 12b, 16, 11a.
- WIERS, Paul,** 5603 Northfield Rd., Bethesda 14, Md. (1939) U.S. Govt., Bur. of Budget, econ., govt. serv.; b. 1908; B.S., 1923, M.A., 1931, Ph.D., 1947, Michigan. Fields 10, 3, 6. Doc. dis. Theories of business cycle and international trade. Pub. "International trade during 1937-46," in Ten eventful years (Ency. Britannica, 1947); "World trade," Dept. of Com., Apr., 1947; "Importance of importing," For. Com. Weekly (Dept. of Com.), Jan., 1947.
- WIESEN, Thomas Ferdinand,** 2216 Broadway, Lubbock, Tex. (1939)
- WIESENFELD, Henry M.,** 3023 St. Paul St., Baltimore, Md. (1928)
- WIEST, Edward,** Univ. of Kentucky, Lexington, Ky. (1916)
- WIGDER, Philon,** 1329 Ft. Stevens Dr., N.W., Washington 11, D.C. (1945)
- WIGHTMAN, Guy J.,** c/o Dairymen's League Co-op. Asso., 11 W. 42nd St., New York, N.Y. (1941)
- WILBER, Allen S.,** F. S. Crofts and Co., 101 Fifth Ave., New York, N.Y. (1928)
- WILCOX, Charles Albert,** 320 Ahwahnee Lane, Lake Forest, Ill. (1942) Sherman & Marquette, dir. of res., bus.; b. 1909; B.S.B.A., 1946, Northwestern. Fields 11ab, 1a, 3a.
- WILCOX, Clair,** 510 Ogden Ave., Swarthmore, Pa. (1923) Swarthmore Col., prof. of econ., dept. head, teach., res., govt. serv.; b. 1898; B.S., 1919, Pennsylvania; M.A., 1922, Ohio State; Ph.D., 1927, Pennsylvania. Fields 12, 10, 17b. Doc. dis. Parole from state penal institutions (Pa. State Parole Com., 1927). Pub. Competition and monopoly in American industry (TNEC, 1941); "Price control policy in the postwar transition," May, 1945, "London draft of charter for an international trade organization," May, 1947, A.E.R. Res. Havana charter for an international trade organization. Dir. W.W. in Amer.
- WILCOX, Jack H.,** Highlands, N.C. (1947)
- WILCOX, Robert W.,** 910 N. 19th St., Boise, Idaho, (1946) Univ. of Idaho, ex. econ., teach., res.; b. 1913; B.S., 1938, Oregon State Col.; 1940, Minnesota; M.S., 1940, Ph.D., 1947, Iowa State Col. Fields 15ab, 3ac, 1a. Doc. dis. Farmers Home Administration farm ownership program in Iowa. Res. Pattern of livestock marketing in Idaho.
- WILCOX, Walter W.,** 221 Lathrop St., Madison, Wis. (1941) Univ. of Wisconsin, prof., teach., res.; b. 1904; B.S., 1928, Iowa State Col.; M.S., 1930, Illinois; Ph.D., 1938, Harvard. Field 15b. Pub. Farmer in the Second World War (Iowa State Col. Press, 1947); Farm management (joint author) (Macmillan, 1947); "Economic aspects of soil conservation," J.P.E., Oct., 1938.
- WILDER, Francis Sidney,** 875 Cattell St., Easton, Pa. (1945) Lafayette Col., prof. of econ., teach.; b. 1903; A.B., 1925, Dartmouth; M.A., 1926, Ph.D., 1939, North Carolina. Fields 5, 15bd, 10. Doc. dis. Regional variations in standards of living in U.S.
- WILEY, Jay Wilson,** Purdue Univ., Recitation Bldg., Lafayette, Ind. (1937) Purdue Univ., asst. prof., teach.; b. 1913; A.B., 1935, A.M., 1936, Lawrence; Ph.D., 1948, Illinois. Fields 10, 7, 6. Doc. dis. Some problems of foreign exchange control in Argentina. Res. Theory of foreign exchange control.
- WILKEY, Harry Lawless,** Iowa Wesleyan Col., Mt. Pleasant, Iowa. (1946) Iowa Wesleyan Col., asso. prof., dept. head, teach.; b. 1907; B.S., 1930, Iowa; M.A., 1938, Illinois. Fields 1a, 2a, 11a. Pub. "Infant industries in Illinois," Jour. of Ill. State Hist. Soc., Dec., 1939; "A high school surveys its community," Ill. Educa., May, 1941; "Teaching of economics in secondary school," Balance Sheet, Feb., 1946.
- WILKIE, Horace W.,** 3909 Euclid Ave., Madison, Wis. (1945)
- WILKIE, John Alwyn,** 126 Forest St., Madison 5, Wis. (1948) Univ. of Wisconsin, student; b. 1919; B.A., 1940, 1940-41, 1948, Wisconsin. Fields 9, 15a, 14a.
- WILLCOX, Walter Francis,** 3 South Ave., Ithaca, N.Y. (1892)
- WILLER, Henry Robert,** 1 Charles St., New York 14, N.Y. (1947) N.Y. City Board of Educa., teacher, teach., res.; b. 1896; B.S., 1919, City of New York; M.B.A., 1943, 1944-46, New York. Fields 1, 13, 11. Res. Ultimate decision: economy of socialist or independent choice.
- WILLETT, Edward Francis,** 235 Crescent St., Northampton, Mass. (1938) Smith Col., asso. prof., teach.; b. 1904; A.B., 1924, M.A., 1936, Ph.D., 1939, Princeton. Fields 8ab, 10, 11c. Doc. dis. Federal Securities Act of 1933. Pub. Managing personal finances (co-author of rev. ed.) (Prentice-Hall, 1945). Dir. Dir. of Schol., W.W. in New England.
- WILLETT, Edward Rice,** Northeastern Univ., 360 Huntington Ave., Boston, Mass. (1947) Northeastern Univ., instr., teach., bus., res.; b. 1923; B.S., 1945, Northeastern; A.M., 1947, Harvard. Fields 12a, 3a, 1a. Res. Radio parts distributing industry in New England (doc. dis.). Dir. W.W. in Amer. Col. and Univ.
- WILLFORD, Margarita,** 11 Ware St., Cambridge, Mass. (1947) Harvard Univ., res.; b. 1894; Dr. rer. pol., 1927, Vienna Univ.; M.A., 1945, Radcliffe. Fields 4, 10.
- WILLIAMS, Alfred Hector,** Fed. Res. Bank, 925 Chestnut St., Philadelphia, Pa. (1921)
- WILLIAMS, Charles Rhoads,** 441 Crescent Ave., Moorestown, N.J. (1946) Hezekiah Williams & Sons, managing partner, res., bus.; b. 1892; 1910-11, Clark Univ.; S.B., 1914, Haverford; 1924-29, Columbia. Fields 8b, 11a, 1c. Res. Economic fluctuations: analysis and projection.
- WILLIAMS, Charles Weston,** Univ. of Louisville, Louisville 8, Ky. (1945) Univ. of Louisville, Dept. of Econ. Com., dept. head, prof., teach., res.; b. 1899; 1917-19, Baylor; A.B., 1920, Howard Col.; B. Litt. 1923, Oxford Univ.; 1924-25, Univ. of Stockholm. Fields 7, 8, 16. Dir. W.W. in Amer., in Com. and Ind., Who Knows—and What, Dir. of Schol., Lead. in Educa.
- WILLIAMS, Constance,** 9603 Riley Pl., Silver Spring, Md. (1943)
- WILLIAMS, Conway Scott,** 20 Spring St., West-erly, R.I. (1940) Mohawk Col., Mgt. Dept., dept. head, asst. prof., teach., res.; b. 1911; A.B., 1934, M.S., 1935, 1938-42, Columbia. Fields 11a, 3ac, 14a. Pub. N.E.M.A. statistics, what they are and how to use them (Nat. Elec. Mfgs. Asso., 1940); Quarterly bulletin of hosiery industry (Nat.

Asso. of Hos. Mfgs.) (1941). Res. Management control.

WILLIAMS, Elgin, Univ. of Washington, Dept. of Econ., Seattle, Wash. (1945)

WILLIAMS, Ernest William, Jr., 214 Glenwood Ave., Stratford, Conn. (1943) Columbia Univ., School of Bus., lecturer in transp.; U.S. Bur. of Budget, fiscal consult.; teach., govt. serv., res.; b. 1916; B.S., 1938, M.S., 1939, Columbia. Fields 13b, 15d, 2a. Pub. Transportation and national policy (co-author and edit.) (Nat. Res. Plan. Bd., 1942); Outlook for the railroad industry (Nat. Plan. Asso., Plan. Pamph. 22, 1943).

WILLIAMS, Faith Moors, U.S. Dept. of Labor, Bur. of Labor Statist., Washington, D.C. (1925)

***WILLIAMS, Henry F.**, 10006 S. Parnell Ave., Chicago 28, Ill. (1947)

WILLIAMS, John Burr, 30 Lowell Rd., Wellesley Hills 82, Mass. (1939) Self-employed, bus., res.; b. 1900; S.B., 1923, M.B.A., 1925, M.A., 1935, Ph.D., 1940, Harvard. Fields 10, 8b, 1a. Doc. dis. Theory of investment value (Harvard Univ. Press, 1938). Pub. "Speculation and the carry-over," Q.J.E., May, 1936. Res. Theory of international trade; theory of wages; money and business cycles; theory of value.

WILLIAMS, John Henry, 148 Coolidge Hill, Cambridge 38, Mass. (1919) Harvard Univ., Nathaniel Ropes prof. of polit. econ.; Fed. Res. Bank of N.Y., econ. adviser, teach., res.; b. 1887; A.B., 1912, D.Sc. (Hon.), 1935, Brown; M.A., 1916, Ph.D., 1919, Harvard. Fields 7, 10, 9. Doc. dis. Argentine international trade under inconvertible paper money, 1880-1900 (Harvard Econ. Studies, 1920). Pub. Postwar monetary plans and other essays (Knopf, 1944, 3rd ed. 1947); "Free enterprise and full employment," in Financing American prosperity (Twentieth Century Fund, 1945); "Balance of payments of U.S., 1919-23," Rev. of Econ. Statist., 1919-23. Res. Monetary and fiscal policy; international economics. Dir. W.W. in Amer., in Western Hemisphere, Int. W.W., Dir. of Schol., Lead. in Educa., Who Knows—and What.

WILLIAMS, Kenneth Burd, 319 Cumberland Ave., Chevy Chase 15, Md. (1937)

WILLIAMS, Randall S., c/o Foreign Mail Div., Dept. of State, Washington, D.C. (1944)

WILLIAMS, Robert Martin, Univ. of California, Col. of Bus. Admin., Los Angeles 24, Calif. (1947) Univ. of California, lecturer, teach., res.; b. 1913; B.A., 1934, Pomona Col.; M.A., 1942, California at Los Angeles; M.A., 1947, Harvard. Fields 6, 3, 1. Res. Business trends and fluctuations in southern California (doc. dis.).

WILLIAMS, Roger H., 40 Wall St., New York, N.Y. (1913)

***WILLIAMS, Roger John, Jr.**, Univ. of Rochester, Dept. of Econ., Rochester, N.Y. (1947) Univ. of Rochester, instr., teach., res.; b. 1918; B.A., 1939, Reed Col.; 1939-41, Stanford; summer, 1946, Texas; 1946-48, Columbia. Fields 1a, 6, 12a. Res. Entry under monopolistics and imperfect competition (doc. dis.).

WILLIAMS, Whiting, 3030 Euclid Ave., Cleveland, Ohio. (1942)

WILLIAMSON, Harold Francis, Northwestern Univ., Econ. Dept., Evanston, Ill. (1935) Northwestern Univ., prof., teach., res.; b. 1901; A.B., 1924, M.A., 1926, Southern California; Ph.D., 1936, Harvard. Fields 2a, 14a, 1a. Doc. dis. Edward Atkinson, biography of an American liberal (Old Colony Book Store, 1935). Pub. American carpet manufacture (with A. H. Cole) (Harvard Univ. Press, 1941); Growth of American economy (editor and contrib.) (Prentice-Hall, 1944). Res. History of Winchester Repeating Arms Co.

WILLIAMSON, Kossuth Mayer, Wesleyan Sta., Middletown, Conn. (1920) Wesleyan Univ., prof., dept. head, teach., res.; b. 1891; A.B., 1913, Alabama; A.M., 1916, Ph.D., 1920, Harvard. Fields 9, 1, 6. Doc. dis. Taxation of distilled spirits. Pub. "Taxation of real estate: a survey of recent discussion," Q.J.E., Nov., 1933; "Reciprocity and retaliation in insurance taxation," Proceed. of Nat. Tax Asso., 1938; "Case for taxation of govern-

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WILLIAMSON, William Rulon, 3400 Fairhill Dr., Washington 20, D.C. (1942) Wyatt Co., sr. actuarial consult.; Instituto Guatemalteco de Seguridad Social, tech. adviser; b. 1889; B.A., 1909, M.A., 1910, Wesleyan. Fields 8c, 17ab. Pub. Employee insurance plans (Frank & Wagnalls, 1948); "Social insurance," Jour. of Amer. Asso. of Univ. Teachers of Ins., 1945-48; "A few statistical problems of group life insurance," Trans. of Tenth Int. Cong. of Actuaries, 1934. Res. Social insurance plans for U.S. Dir. W.W. in Amer.

WILLING, Pearl Rushfield, 14 Stuyvesant Oval, New York 9, N.Y. (1947) Craftsman School of Needle Trades, dir.; b. 1918; B.A., 1941, Brooklyn Col.; M.A., 1947, New York. Fields 11a, 16, 7.

WILLIS, Elisabeth Curtiss (Mrs. Ben S.), 2320 Knapp St., Ames, Iowa. (1940) Iowa State Col., asso. prof., teach.; b. 1906; B.A., 1928, Wellesley; M.A., 1930, Columbia; Ph.D., 1942, Chicago. Fields 17d, 12a. Doc. dis. Trade barriers and consumer interest.

WILLIS, (John) Brooke, Columbia Univ., 514 School of Bus., New York, N.Y. (1933)

WILLIS, Parker B., 60 Brattle St., Apt. 401, Cambridge 38, Mass. (1947)

WILLIS, Joseph Henry, Rockefeller Found., 49 W. 49th St., New York 20, N.Y. (1919) Rockefeller Found., dir. for soc. sci., dept. head; b. 1889; A.B., 1911, A.M., 1912, LL.D., 1937, Swarthmore; Ph.D., 1916, LL.D., 1939, Pennsylvania. Fields 16, 1a, 2a. Doc. dis. The unemployed in Philadelphia (Philadelphia Dept. of Pub. Works, 1915). Pub. What Coal Commission found (with others) (Williams and Wilkins, Baltimore, 1925); Studies of labor relations for U.S. Coal Commission (U.S. Govt., 1925). Dir. W.W. in Amer.

WILLS, John Harvey, Northern Trust Co., 50 S. La Salle St., Chicago 90, Ill. (1940) Northern Trust Co., second vice-pres., res., edit.; b. 1905; S.B., 1926, M.I.T.; 1926-27, 1930-31, Harvard; A.M., 1940, Princeton. Fields 7, 8b, 6.

WILMETH, Jo Brice, 219 Eighth St., S.W., Washington 4, D.C. (1947) U.S. Dept. of Agric., Prod. and Mktg. Admin., Mktg. Facilities Br., mktg. res. anal., govt. serv.; b. 1908; A.B., 1931, 1934-35, Texas Christian; 1932-33, 1937-40, Texas; 1935-36, Louisiana State; 1946-48, American. Fields 1a, 3ac, 13ab. Res. Methods of physically handling cotton in public warehouses.

WILMINGTON, Martin W., 165 Broadway, New York 6, N.Y. (1946)

WILMOT, William Vernon, Jr., Univ. of Wisconsin, 430 Sterling Hall, Madison 6, Wis. (1942) Univ. of Wisconsin, instr., teach.; b. 1916; A.B., 1937, A.M., 1939, Syracuse; 1940-42, 1946-47, Wisconsin. Fields 1a, 13b, 12a. Pub. "Electric power" (with H. W. Peck), in Development of collective enterprise (Univ. of Kansas Press, 1943). Res. Some theoretical considerations of restrictive practices of cartels (doc. dis.).

WILSEY, (Harry) Lawrence, Univ. of Southern California, Col. of Com., Dept. of Gen. Bus., Los Angeles 7, Calif. (1947) Univ. of Southern California, asst. prof., teach., res.; b. 1923; B.S., 1944, A.M., 1946, Southern California; 1946-48, Cornell Univ. Fields 8ab, 12, 2. Pub. "Use of sinking funds in preferred stock issues," Jour. of Fin., Oct., 1947. Res. Economic, regulatory, and legal aspects of SEC (doc. dis.).

WILSON, Edwin Bidwell, 695 Huntington Ave., Boston 15, Mass. (1912) Harvard Univ., prof. emeritus; Office of Naval Res., consult.; govt. serv.; b. 1879; A.B., 1899, Harvard; Ph.D., 1901, Yale. Fields 3a, 17, 1c. Doc. dis. Pure mathematics of no bearing on economics or statistics. Pub. "Least squares and laws of population growth" (with R. R. Pieffer), Proceed. Amer. Acad. Arts and Sci., 1933; "Periodogram of American business activity," 1934, "John Law and John Keynes," 1948, Q.J.E. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa., Int. W.W.

WILSON, Elizabeth Webb, 1 Waterhouse St., Cambridge 38, Mass. (1929) Nat. Physicians Com.,

res.; b. 1896; A.B., 1917, George Washington; A.M., 1920, Ph.D., 1934, Radcliffe. Fields 17b, 3b, 5. Doc. dis. Distribution of disability costs. Pub. Compulsory health insurance (Nat. Ind. Conf. Bd., 1947); "Sickness 'pays' in Rhode Island," *Christian Sci. Monitor* Mag., May 15, 1948; "Hazards of compulsory health insurance," *Barron's*, Apr. 8, 1946. Res. Socialization of medicine in England. Dir. W.W. in Amer., in New England.

WILSON, G. Lloyd, Univ. of Pennsylvania, 203 Logan Hall, Philadelphia 4, Pa. (1946) Univ. of Pennsylvania, Transp. and Pub. Util. Dept., dept. head, prof., teach., res., govt. serv.; b. 1896; A.B., 1918, Swarthmore; A.M., 1923, M.B.A., 1926, Ph.D., 1925, LL.B., 1940, Pennsylvania. Fields 13, 12b, 1a. Doc. dis. Organization and operation of industrial and commercial traffic departments (Traffic Serv. Corp., 1926). Pub. Transportation: economic principles and practices (Appleton-Century, 1940); Public utility industries—public utility regulations (McGraw-Hill, 1938, 1939); Interstate commerce and traffic law (Prentice-Hall, 1947). Res. Nationalization of British railways and other transportation facilities. Dir. W.W. in Amer., in Railroad, Lead. in Educa.

WILSON, Howard, 2711 Giddings St., Chicago 25, Ill. (1944) Loyola Univ., asst. prof.; Illinois Inst. of Tech., instr., teach.; b. 1919; B.A., 1943, Central Y.M.C.A. Col.; M.A., 1946, 1946-48, Northwestern. Fields 16, 6, 7. Pub. Helping yourself to understand economics (Economic Inst., 1947).

WILSON, Howard W., Reservoir Ave., R.F.D., 1, Olneyville Sta. Johnston, R.I. (1929)

WILSON, John Donald, 12 Orchard Pkwy., White Plains, N.Y. (1946) McGraw-Hill Int. Corp., dir. of econ. serv., dept. head, edit., bus.; b. 1913; B.A., 1935, Univ. of Colorado; M.A., 1937, Tufts Col.; M.A., 1940, Harvard; 1936-37, Fletcher School of Int. Law and Diplomacy. Fields 10, 6, 14. Pub. "The Marshall Program," *Bus. Week*, Nov. 22, 1947; "Electric power and defense program," *Survey of Cur. Bus.*, Jan., 1941.

WILSON, Walter C., State of Nevada, Dept. of Highways, Carson City, Nev. (1940)

WIMSATT, Genevieve Beckwith, 3721 Alton Pl., N.W., Washington 16, D.C. (1941)

WINDHORST, Richard Bradley, Olivia, Minn. (1945)

*WINESTONE, Robert Louis, 1725 Orrington Ave., Apt 423, Evanston, Ill. (1948) Northwestern Univ., instr., teach.; b. 1915; B.A., 1939, M.A., 1942, Oregon; 1946-47, Minnesota; 1947-48, Northwestern. Fields 1a, 9, 17.

WINGATE, John Williams, City Col., 17 Lexington Ave., New York 10, N.Y. (1929)

WINN, Willis Jay, Univ. of Pennsylvania, Wharton School, Philadelphia 4, Pa. (1941) Wharton School, instr., teach., res.; b. 1917; A.B., 1939, Central Col. (Fayette, Mo.); M.A., 1940, 1940-42, Pennsylvania. Fields 7, 8, 9. Pub. Basic yields of bonds, 1926-47: their measurement and pattern (with D. Durand) (Natl. Bur. of Econ. Res., 1947); "Commodity reserve currency: a critique" (with W.T.M. Beale, Jr., and M. T. Kennedy), *J.P.E.*, Aug., 1942. Res. Ownership composition of federal debt, 1914-48: problems and pattern (doc. dis.).

*WINNICK, Louis, Columbia Univ., 433 Furnald Hall, New York 27, N.Y. (1947)

WINSLOW, Earle Micajah, 2333 N. Vernon St., Arlington, Va. (1923) U. S. Tariff Com., econ. res., govt. serv.; b. 1896; B.A., 1920, Penn. Col.; M.A., 1922, Iowa; Ph.D., 1929, Harvard. Fields 10, 1b, 4a. Doc. dis. Theories of economic imperialism. Pub. Pattern of imperialism (Columbia Univ. Press, 1948); "Marxian, liberal and sociological theories of imperialism," *J.P.E.*, Dec., 1931. Dir. of Schol.

WINSLOW, Rex Shelton, 118 University Dr., Chapel Hill, N.C. (1942) Univ. of North Carolina, prof., dir. of Bur. of Bus. Serv. and Res., dept. head, res., bus.; b. 1901; A.B., 1923, Simpson Col.; M.A., 1929, Illinois; Ph.D., 1936, North Carolina. Fields 1ab, 12b, 11a. Doc. dis. Study of types of approach found in recent American economic literature with special reference to organic and

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WINSTON, Clement, 1420 Tuckerman St., N.W., Washington 11, D.C. (1946)

WINTERGALEN, Edward Henry, Regis Col., 50th and Lowell, Denver 11, Colo. (1946) Regis Col., asst. prof., dept. head asst., teach.; b. 1906; A.M., 1932, M.S.C., 1940, St. Louis. Fields 6, 7, 16. Res. Prices of fresh vegetables in Colorado whole sale market, for seasonal variation and changes over years.

WINTERS, Robert Alonzo, 318 Grant Ave., Highland Park, N.J. (1937)

WIRIC, Victor John, 818 N. 5th st., Quincy, Ill. (1947) Quincy Col., asst. prof., teach.; b. 1897; M.A., 1929, Kentucky. Fields 11bc, 4c, 17d. Pub. Consumer problems (1939); Government aids to consumers (1940); Co-operatives in Minnesota (1940).

WIRICK, Grover C., Jr., 1127 E. Ann St., Ann Arbor, Mich. (1946) Univ. of Michigan, teach. fellow, teach.; b. 1917; A.B., 1942, Michigan State Col.; M.A., 1946, Michigan. Fields 3c, 1a, 13a.

WIRPEL, Sander W., Airlines Negotiating Conf., 36 W. 44th St., New York 18, N.Y. (1947) Airlines Negotiating Conf., econ. anal., res., bus.; b. 1920; A.B., 1942, 1946-47, Chicago. Fields 16, 13b, 11b. Res. Appraisal of effect of Airlines Negotiating Conference on collective bargaining in air transport industry.

WISSEL, Peter Edward, 69-05 65th St., Ridgewood 27, L.I., N.Y. (1947) Texas Cos., Econ. Div., res., bus.; b. 1922; B.A., 1943, 1946-48, Columbia. Fields 3a, 1, 6.

WITCOVER, Henry W., 4905 29th Rd., S., Arlington, Va. (1941)

WITHERS, William Herbert, 399 E. 52nd St., New York 22, N.Y. (1928)

WITNEY, Fred, Indiana Univ., Dept. of Econ., Bloomington, Ind. (1947) Indiana Univ., instr., teach., res.; b. 1917; A.B., 1940, M.A., 1941, Ph.D., 1947, Illinois. Fields 16, 1a, 4. Doc. dis. Wartime experiences of National Labor Relations Board, 1941-45. Pub. "Plant protection employees under current federal labor legislation," *June*, 1947, "Agricultural workers under national labor relations laws," *Mar.*, 1948, *Inst. of Labor and Ind. Rela.* (Univ. of Illinois). Res. Effect of Labor-management Relations Act 1947 on various phases of industrial relations.

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WITTRICH, Karl F. J., Muhlenberg Col., Dept. of Soc. Studies, Allentown, Pa. (1947)

WIXON, Rufus, 888 Colvin Blvd., Kenmore 17, N.Y. (1946) Univ. of Buffalo, Dept. of Acctg., dept. head, prof., teach., res.; b. 1911; B.S.C., 1933, M.A., 1935, Iowa; Ph.D., 1945, Michigan. Fields 11c, 8a, 1a. Doc. dis. Accounting for corporate capital transactions. Pub. "Legal requirements and accounting standards," *Acctg. Rev.*, Apr., 1945; "Nature of corporate capital," *Jour. of Accountancy*, Sept., 1946. Res. Advanced accounting.

WOERNER, Kurt Redroff, Wynnwood, Pa. (1937) First Mortgage Corp., vice-pres., bus., teach., res.; b. 1902; R.P.D., 1927, Univ. of Tuebingen; LL.B., 1934, Northwestern Col. of Law (Portland, Ore.). Fields 15e, 1a, 17a. Doc. dis. Price level and efforts of governments to lower it during 1924-25 (Weinbrenner & Son's, Stuttgart, 1927).

- WOLF, Alfred C., 1660 Lanier Pl., N.W., Washington, D.C. (1947)
- WOLF, Alois F., Hills Bros. Co., 110 Washington St., New York, N.Y. (1942)
- *WOLF, Charles, Jr., 333 West End Ave., New York, N.Y. (1948) Dept. of State, vice consul-for. serv., govt. serv.; b. 1924; S.B., 1943, Harvard; 1943-44, Stanford; M.P.A., 1948, Harvard. Fields 10, 4a, 1. Pub. The Indonesian story (John Day Co., 1948); "Hornet's nest in Indonesia," Nation, Aug. 2, 1947; "Background of the crisis in Indonesia," United Nations World, Sept., 1947.
- WOLF, Franz B., 292 Madison Ave., New York 17, N.Y. (1947)
- WOLF, Harry De Merle, 1 Davie Wood, Chapel Hill, N.C. (1926)
- WOLF, Richard B., MKM Hosiery Mills, Inc., Rochdale, Mass. (1946) MKM Hosiery Mills, gen. mgr., bus.; b. 1921; S.B., 1941, 1941-42, Harvard. Fields 6, 16, 12.
- WOLFARD, John Addison, Montana State Univ., Dept. of Econ., Missoula, Mont. (1942) Montana State Univ., asso. prof. of econ.; b. 1911; B.A., 1936, M.A., 1937, Univ. of Washington; Ph.D., 1942, Wisconsin. Fields 1ab, 16, 4a. Doc. dis. Stabilization of employment and earnings (abstracts, Univ. of Wisconsin Press, 1942). Res. Economics of collective bargaining.
- ††WOLFE, Albert Benedict, Ohio State Univ., Columbus 10, Ohio. (1905) Ohio State Univ., prof. emeritus, res., teach.; b. 1876; A.B., 1902, A.M., 1903, Ph.D., 1905, Harvard. Fields 1a, 17a, 4b. Doc. dis. Lodging house problem in Boston (Harvard Econ. Studies, 1906). Pub. Conservatism, radicalism and scientific method (Macmillan, 1923); "Full utilization, equilibrium and the expansion of production," Q.J.E., Aug., 1940; "Vital statistics, empiricism, and mechanism of nature," Southwestern Polit. and Soc. Sci. Quar., 1927. Res. Economy of human living. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.
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- WOLFF, Reinhold Paul, P.O. Box 164, Univ. Br., Miami, Fla. (1938) Univ. of Miami, prof. of econ., teach., res.; Pol. Sc. Dr., 1920, Freiburg. Fields 15e, 12a, 11b. Doc. dis. Adjustment of wages to rising prices (Freiburg, 1920). Pub. Miami economic pattern of a resort area (Univ. of Miami, 1945); International cartels, legal pattern (Berlin, Germany, 1929); "Monopolistic competition in distribution," Law and Contemp. Prob., 1941. Res. Residential research for greater Miami area.
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- *WOLFSON, Robert Joseph, 5612 S. Kenwood Ave., rear, Chicago 37, Ill. (1948) Univ. of Chicago, student; b. 1925; B.S., 1947, 1947-48, Chicago. Fields 1ac, 3ab.
- WOLFSON, Theresa, 810 E. 19th St., Brooklyn 30, N.Y. (1930) Brooklyn Col., asso. prof., teach., res.; b. 1898; B.A., 1917, Adelphi Col.; M.A., 1922, Columbia; Ph.D., 1927, Brookings. Fields 16, 17, 4. Doc. dis. Woman worker and trade unions (International Publishers, 1927). Pub. Frances Wright—free enquirer (co-author) (Harper, 1936); "Trade union and economic planning," in Economic planning (Prentice-Hall). Res. Emerging labor philosophy of American labor.
- WOLK, Samuel J. B., 150 E. 19th St., Brooklyn 26, N.Y. (1948)
- WOLKIND, Eleanor, 1922 Eye St., N.W., Washington 6, D.C. (1948) Housing and Home Fin. Agency, econ., govt. serv., res., bus.; b. 1912; B.A., 1932, Brooklyn Col.; M.A., 1933, Columbia. Fields 15e, 14b, 17ad. Pub. Housing needs (Nat. Housing Agency, 1944); "Value of the service," Jour. of Land and Pub. Util. Econ., Aug., 1933. Res. Estimated requirements for capital outlays, 1946-60.
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- WOLLMAN, Nathaniel, Univ. of New Mexico, Dept. of Econ., Albuquerque, N.M. (1938) Univ. of New Mexico, asso. prof., teach., res.; b. 1915; 1932-33, Pennsylvania; A.B., 1936, Penn State; Ph.D., 1940, Princeton. Fields 1, 16, 10. Doc. dis. Concept of market in value analysis.
- WOLMAN, Abel, Johns Hopkins Univ., 211 Latrobe Hall, Baltimore 18, Md. (1924) Johns Hopkins Univ., dept. head, prof.; B.A., 1913, B.S.E., 1915, D.Eng. (Hon.), 1937, Johns Hopkins. Fields 17, 3, 5.
- WOLMAN, Leo, 993 Park Ave., New York 28, N.Y. (1915) Columbia Univ., prof. of econ.; Nat. Bur. of Econ. Res., res. staff; b. 1890; A.B., 1911, Ph.D., 1914, LL.D., 1948, Johns Hopkins. Fields 16, 6, 3c. Doc. dis. Boycott in American trade unions (Johns Hopkins Press, 1916). Pub. Growth of American trade unions, 1880-1923 (1924). Planning and control of public works (1930). Ebb and flow in trade unionism (1936) (Nat. Bur. of Econ. Res.). Res. Wages in U.S. since 1860; changes in union membership. Dir. W.W. in Amer., Dir. of Schol., Lead. in Educa.
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- WOOD, Donald T., 27 Lebanon St., Hanover, N.H. (1947)
- WOOD, Elmer, Univ. of Missouri, Columbia, Mo. (1931) Univ. of Missouri, prof. of econ., teach., res.; b. 1892; A.B., 1916, Missouri; Ph.D., 1937, Harvard. Fields 7, 10, 6. Pub. English theories of central banking control (Harvard Press, 1939); "International monetary reconstruction," Amer. Jour. of Econ. and Soc., 1945. Dir. of Schol.
- WOOD, Helen, 1306 34th St., N.W., Washington 7, D.C. (1945) U.S. Dept. of Labor, Bur. of Labor Statis., Occupational Outlook Br., sec. chief, labor econ., govt. serv.; b. 1907; B.A., 1928, Wellesley; M.A., 1932, Columbia. Fields 16, 14c, 3c. Pub. Employment opportunities in aviation occupations, Pt. I—Postwar employment outlook (1945), Pt. 2—Duties, qualifications, earnings, and working conditions (1946) Hours of work in manufacturing 1914-43 (U.S. Dept. of Labor, Bur. of Labor Statis.). Res. Economic status of radio artists; employment outlook in railroad occupations.
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- WOOD, Louis A., Univ. of Oregon, Dept. of Econ., Eugene, Ore. (1930)
- WOOD, Ralph Clinton, c/o American Embassy, Paris, France. (1938) Econ. Co-op. Admin., Mission to France, asst. chief, fin., govt. serv.; b. 1911; B.A., 1934, M.A., 1935, Wesleyan Univ.; 1935-36, 1937-38, Columbia. Fields 10, 1ab, 5. Pub. "Dr. Tucker's 'reasons' for price rigidity," A.E.R., Dec., 1938; "Control of rubber: a case study," Jour. of Mktg., Oct., 1942. Res. Theory of international economic specialization and development (doc. dis.).
- WOOD, Ramsay, Bd. of Gov. of Fed. Res. System, Washington 25, D.C. (1939)
- WOOD, Richard Harvey, R.D. 1, Mt. Lucas Rd., Princeton, N.J. (1942) Inst. of Mgt. and

- Labor Rela., Rutgers Univ., asso. prof., res.; b. 1908; A.B., 1930, Ph.D., 1943, Princeton. Fields 16, 17b, 4c. Doc. dis. Principles and practices of profit sharing. Pub. "Labor relations code," *Personnel Jour.*, Apr., 1945. Res. Co-operation on safety program between labor and management.
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- WOODBURY, Robert Morse, 3450 Drummond St., Montreal, Que., Canada. (1912) Int. Labour Office, chief statis., dept. head, govt. serv.; b. 1889; A.B., 1910, A.M., 1912, Clark Univ.; Ph.D., 1915, Cornell Univ.; 1913-14, Univ. of Berlin; summer, 1914, Minnesota. Fields 3ab, 16, 17ad. Doc. dis. Social insurance, an economic analysis (Holt, 1917). Pub. Worker's health and safety: a statistical program (Macmillan, 1927); Infant mortality and causes (Williams and Wilkins, 1926); International comparisons of food costs (Int. Labour Office, 1941). Res. Methods of family living studies. Dir. W.W. in Amer., Dir. of Schol.
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- WOODRUFF, Ruth Jackson, 16 Meadow Rd., Durham, N.H. (1935) Univ. of New Hampshire, dean of women, asso. prof., teach.; b. 1898; A.B., 1919, M.A., 1920, Bryn Mawr; Ph.D., 1931, Radcliffe. Fields 2a, 10, 1. Doc. dis. History of American hosiery industry.
- WOODS, Julian A., Quincy Col., Quincy, Ill. (1948) Quincy Col., dean of men, instr. in acctg. and econ., dept. head, teach.; b. 1916; A.B., 1939, St. Joseph Col.; 1944-45, St. Louis; M.A., 1947, Catholic. Fields 1ab, 3a, 11c. Pub. Economic aspects of Caribbean Commission (1947).
- WOODS, Mary Helen Ann, Webster City, Iowa. (1947) Loyola Univ., instr., teach.; b. 1922; B.A., 1945, Rosary Col.; M.A., 1947, Catholic. Field 10.
- WOODS, Robert M., St. Mary's Col., Winona, Minn. (1940)
- WOODWARD, Charles Guilford, 742 Asylum Ave., Hartford 5, Conn. (1913) Conn. General Life Ins. Co., Fin. Com., vice-chmn.; State Savings Bank, vice-pres.; b. 1876; B.A., 1898, M.A., 1901, Trinity Col. (Hartford, Conn.); 1898-1900, Columbia.
- WOODWARD, Donald Bosley, 205 W. 54th St., New York 19, N.Y. (1945) Mutual Life Ins. Co. of N.Y., 2nd vice-pres., dept. head, res., edit.; b. 1905; A.B., 1928, Indiana. Fields 8c, 17a, 7. Pub. Primer of money (with M. A. Rose) (1932), Inflation (with M. A. Rose) (1933), Prosperity, we can have it if we want it (with M. Shields) (1946) (Whittlesey House). Res. Implications of scientific developments. Dir. W.W. in East, in Insurance.
- WOODWORTH, G(eorge) Walter, Dartmouth Col., Amos Tuck School, Hanover, N.H. (1928) Dartmouth Col., Amos Tuck School, prof. of fin., teach., res.; b. 1903; A.B., 1924, Kansas Wesleyan; M.A., 1925, Kansas; Ph.D., 1932, Michigan. Fields 7, 8ab, 3ac. Doc. dis. Detroit money market (Univ. of Michigan, 1932). Pub. Principles of money and banking (with R. D. Kilborne) (McGraw-Hill, 1937). Dir. W.W. in New England.
- WOODWORTH, Laurence N., 2810 Crest Ave., Cheverly, Md. (1945)
- WOOLFSON, A. Philip, 986 Woodland Ave., Plainfield, N.J. (1944)
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- WORKING, Holbrook, Food Res. Inst., Stanford University, Calif. (1915)
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grand secy.-treas.; bus.; b. 1893; 1919, North-western. Field 11.

WRIGHT, Ivan, Niagara-on-the-Lake, Ont., Canada. (1921)

WRIGHT, John W., 429 Whittier St., N.W., Washington 12, D.C. (1931) U.S. Dept. of Agric., Cotton Br., Res. and Testing Div., chief, res., govt. serv.; b. 1890; B.S., 1917, Utah State Col.; M.S., 1933, Ph.D., 1938, American. Fields 12a, 15b, 11b. Doc. dis. Producers' markets for cotton in U.S., an economic appraisal. Pub. Marketing practices in producers local markets (1937). Distribution of American raw cotton (1936) (U.S. Dept. of Agric.). Res. Technological and economic aspects of marketing raw cotton and cotton products.

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WU, Chee Hsien, c/o H. T. Mei, P.O. Box 5022, Shanghai 23, China. (1944) Nat. Central Univ., asso. prof., teach., res.; b. 1914; M.A., 1945, Wisconsin; A.M., 1946, Ph.D., 1948, Harvard. Fields 1a, 10, 3c. Doc. dis. Two decades of Soviet foreign trade.

WU, Yung-Shun, No. 17, Lane 1537, Bubbling Well Rd., Shanghai, China. (1943)

WUELLER, Paul H., R.D. 1, Duncannon, Pa. (1937)

WUNDER, Charles S., 945 Union Trust Bldg., Pittsburgh, Pa. (1934)

WUNDERLICH, Frieda, 66 W. 12th, New York, N.Y. (1938)

WYCKOFF, Vertrees Judson, 718 E. Seminary St., Greencastle, Ind. (1940) DePauw Univ., prof. of econ., teach., res.; b. 1898; A.B., 1920, Ph.D., 1923, Johns Hopkins. Fields 9, 11a, 2. Doc. dis. Wage policies of labor organizations in period of depression (Johns Hopkins Univ. Press, 1926). Pub. "Tax classification and public finance," Nat. Tax Asso. Bul., Jan., 1946; "Surplus concept in state finance," State Government, Dec., 1943; "Land prices in seventeenth-century Maryland," A.E.R., Mar., 1938. Res. State and local government fiscal relations. Dir. Dir. of Schol.

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YAFFA, Irving, 4320 N. Henderson Rd., Arlington, Va. (1944)

YAGER, Joseph A., 76 Forrester St., S.W., Washington 20, D.C. (1941)

YAKEL, Ralph, Jr., 522 W. 50th St., New York, N.Y. (1946) Univ. of Bridgeport, asst. prof., teach.; b. 1914; B.S., 1934, Illinois; M.B.A., 1946, Chicago. Fields 7, 8b, 5.

YANG, Shu-Chia, Bank of Communications, Hankow, China. (1947)

*YANG, Shu-Chin, 1024 Clymer Pl., Madison 5, Wis. (1947)

*YEAGER, Francis Scott, Univ. of Minnesota, School of Bus., Minneapolis 14, Minn. (1948) Univ. of Minnesota, School of Bus., instr., teach.; b. 1914; B.A., 1937, Univ. of Western Ontario; M.A., 1948, Minnesota. Field 1.

YEAGER, Harold Caldwell, 330 W. 42nd St., New York 18, N.Y. (1941) Yeager, Anderson, Inc., pres., bus.; b. 1898; A.B., 1921, Illinois; A.M., 1946, Columbia. Fields 8ab, 6, 11a.

YENNI, Jacques E., Loyola Univ., New Orleans 15, La. (1947) Loyola Univ., Col. of Bus. Admin., asst. prof. of econ., teach., res.; b. 1911; B.S.E., 1930, Loyola; M.A., 1936, St. Louis; 1943-47, California. Fields 1ab, 4, 10. Res. International economic relations in light of Catholic social theory (doc. dis.). Dir. Dir. of Schol.

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1924, Ph.D., 1929, Chicago; 1926-27, Harvard. Fields 6, 12, 8b. Doc. dis. Mathematical reformulation of general theory of international trade (Univ. of Chicago Press, 1932). Pub. Jobs and markets, how to prevent inflation and depression in transition (McGraw-Hill, 1932); "Influences of dumping on monopoly price," J.P.E., Dec., 1928; "Full employment in a private enterprise system," A.E.R., Mar. sup., 1944. Res. High employment and productivity, Dir. W.W. in Amer.

YOCUM, James Carleton, Ohio State Univ., Bur. of Bus. Res., Columbus 10, Ohio. (1942) Ohio State Univ., Bur. of Bus. Res., asst. prof. of bus. res., res.; b. 1906; B.S., M.A., Ohio State; 1940, 1941, Columbia. Fields 11b, 3c, 6. Pub. "Problem of consumption in wartime, price control and rationing," in Consumer problems in wartime (McGraw-Hill, 1942); Municipal provision of parking facilities (1946), Sales of Ohio retailers, 1935-47 (with S. Arnold) (1948) (Ohio State Univ., Bur. of Bus. Res.). Res. Ohio small business handbooks; method of stratification for market research; regional and social economic development in the Ohio Valley.

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YODER, Fred R., Box 478, Col. Sta., Pullman, Wash. (1945)

YOST, John W., Industrial Serv. Burs., 53 Park Pl., New York, N.Y. (1940)

YOUNG, Arthur Nichols, 1725 Chelsea Rd., San Marino, Calif. (1911)

YOUNG, Benjamin Franklin, 140 West St., New York 7, N.Y. (1924) N.Y. Tel. Co., vice-pres., comptroller; b. 1886; A.B., 1913, Ohio Wesleyan; M.A., 1915, Columbia. Fields 4b, 13c, 8b.

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YOUNG, John Parke, 33 W. Kirke St., Chevy Chase 15, Md. (1919) Dept. of State, govt. serv.; b. 1895; A.B., 1917, Occidental Col.; A.M., 1919, Columbia; A.M., 1920, Ph.D., 1922, Princeton. Fields 10, 7, 6. Doc. dis. Central American currency and

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YOUNG, John Paul, 7213 Flower Ave., Apt. 4, Takoma Park, Md. (1946)

YOUNG, Lee, Pacific, Mo. (1948)

YOUNG, Ralph A., 2836 Chesapeake St., N.W., Washington 8, D.C. (1929)

YOUNG, Robert H., Bakersfield Col., Bakersfield, Calif. (1947)

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YOUTSLER, James Saxon, Skidmore Col., Saratoga Springs, N.Y. (1944) Skidmore Col., asso. prof., teach., res., bus.; b. 1907; B.A., 1930, Parsons Col.; M.A., 1940, Ph.D., 1942, Iowa. Fields 16, 1ab, 10. Doc. dis. Labor in wartime with special reference to U.S. Res. Guaranteed annual wages.

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ZAPOLEON, Louis B., 4729 MacArthur Blvd., Washington 7, D.C. (1945)

**ZAPOLEON, Marguerite W. (Mrs. Louis B.), 4729 MacArthur Blvd., Washington 7, D.C. (1948)

ZARCIIN, Michael M., San Francisco Jr. Col., San Francisco, Calif. (1945)

ZAREMBA, Alois Louis, 4669 N. High St., Columbus 2, Ohio. (1945) Ohio State Univ., instr., teach., res.; b. 1921; B.S., 1945, Kent State Univ.; M.A., 1946, Ohio State. Fields 10, 1ab, 6.

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- ZINBERG, Arthur David**, 504 E. 5th St., New York 9, N.Y. (1948) Brooklyn Col., instr.; N.Y. State Inst. of Applied Arts and Sci., instr.; teach.; b. 1921; B.S.S., 1941, City of New York; M.A., 1948, Columbia. Fields 16, 11, 2.
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- *ZIVAN, Morton**, 75-39 195th, Flushing, N.Y. (1946)
- *ZMACHINSKI, John**, 68 W. 192nd St., New York 63, N.Y. (1946)
- ZOOK, Paul D.**, Southern Methodist Univ., Box 171, Dallas 5, Tex. (1947) Southern Methodist Univ., asst. prof., teach.; b. 1912; A.B., 1934, Goshen Col.; M.A., 1940, Illinois. Field 13ab.
- ZORBAUGH, Grace S. McClure**, 301 B Silverbell Ave., Tucson, Ariz. (1922)
- ZORN, Eugene Christian, Jr.**, 12 E. 36th St., New York 16, N.Y. (1946) Amer. Bankers Asso., Commerce and Marine Com., asst. secy., res.; b. 1916; B.B.A., 1937, City of New York; M.S., 1942, Columbia. Fields 7, 8ab, 9.
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- ZUCKERMAN, Harold**, 39-39 46th St., Sunnyside, L.I.C. 4, N.Y. (1940) Stuyvesant High School, instr. in econ. and econ. geog., teach.; b. 1910; B.S., 1932, J.D., 1936, New York. Fields 1a, 2a, 4a.
- ZUCKERMAN, Irving**, 1416 R St., N.W., Washington 9, D.C. (1944)
- ZUNDER, Rose D. Fitzgerald**, 786 E. 21st St., Brooklyn 10, N.Y. (1930) Brooklyn Col., asst. prof., teach.; b. 1902; A.B., 1924, Smith Col.; Ph.D., 1928, Yale. Fields 1ac, 11, 13. Doc. dis. Geographical distribution of foreign labor in Massachusetts. Res. Fundamentals of economic theory.
- ZWANZIG, Otto Ernst**, 168 Oakridge Ave., Nutley 10, N.J. (1943) Amer. Gas Asso., sr. statis.; New York Univ., instr.; bus., teach.; b. 1915; B.S., 1935, M.S. in E.E., 1937, M.I.T. Fields 13a, 1, 3.

CLASSIFICATION OF MEMBERS ACCORDING TO FIELDS OF SPECIALIZATION

For the past two years the Committee on Classification (M. A. Copeland, F. W. Fetter, P. T. Homan, Fritz Machlup, J. J. Spengler, and J. W. Bell, Chairman) has been working on a revised classification of subject-matter fields of economics. Our purpose was to produce a pattern which will serve for classifying both personnel (e.g., the *Directory*) and publications (e.g., book reviews, articles, and Ph.D. dissertation lists in the *Review*). We believe that the present revision is a fairly satisfactory compromise of precedent and logical arrangement and that we have achieved the dual purpose by resorting to the division of main groupings (genus) into subgroups (species)—the former usually being adequate for listing personnel and the latter being adapted for use in listing publications.

Our first effort in classifying members according to fields of specialization was made in the "Who's Who" volume of 1938. In the circular addressed to our members on that occasion we merely asked them to write, in the blank space provided for that purpose, their fields of interest or specialization expressed in their own terms. We did not then find it feasible to publish supplementary lists of members; we simply indicated fields along with the biographical data.

In the 1942 *Directory* we classified members according to the twenty fields which have since become familiar (see 1942 *Directory*, pages 127-139). The subject-matter groupings followed a conventional pattern used by the former editor of the *Review*, Davis Rich Dewey, reorganized and modified by the titles commonly employed by members answering our 1938 questionnaire. (Subheads of the main groupings are indicated in the editorial note to the 1942 *Directory* classification; see pages 128-131.)

A more elaborate effort worked out with our help was adopted by the National Roster of Scientific and Specialized Personnel in their check list of June, 1944, which simplified the classification problem by introducing what we had previously been unsuccessful in accomplishing; namely, by subdividing the more general areas (in other words, using the "genus-species" type of classification). Other classifications, such as the one designed for the volume on *A Survey of Contemporary Economics* by the Spengler Committee on the Review of Economics, were suggestive, but radical departures from accepted nomenclature were not made except in cases where logical reasons were very convincing.

A description of our classification of the fields of economics substantially as it is here presented may be found in the report of the Committee on Classification in the *Papers and Proceedings* of the Association, May, 1948, pages 570-572. The listing of the fields in the questionnaire and as used in this volume appears below. Members were instructed on the questionnaire to indicate, in the order of choice, three general fields and to check subdivisions representing their specialized fields, if any. In the groups which follow, each member answering the questionnaire is listed in the tabulated classification according to his first choice of general field; second and third fields and specialized subdivisions are indicated by numbers and letters following the name. Second and third choice listings were contemplated but the plan was given up on account of the limitations of space. For those who are interested, further processing can be easily accomplished. For instance, not all authorities in Money and Banking will be found in Group 7; they may appear under their first choice in Group 9 or 6, etc.

For ease in checking fields by designated numbers as indicated in the list of members or elsewhere, the complete classification of subject-matter groups or fields of specialization is repeated on the outside back cover of this volume.

CLASSIFICATION OF SUBJECT-MATTER GROUPS OR
FIELDS OF SPECIALIZATION

1. ECONOMIC THEORY; GENERAL ECONOMICS
 - a) Theory
 - b) History of Theory
 - c) Mathematical Economics
2. ECONOMIC HISTORY; NATIONAL ECONOMIES
 - a) Economic History
 - b) National Economies
3. STATISTICS AND ECONOMETRICS
 - a) Statistical Methods
 - b) Econometrics
 - c) Economic Measurements
4. ECONOMIC SYSTEMS; PLANNING AND REFORM; CO-OPERATION
 - a) Economic Systems and Policies
 - b) Planning and Reform
 - c) Co-operation
5. NATIONAL INCOME AND SOCIAL ACCOUNTING
6. BUSINESS FLUCTUATIONS
7. MONEY AND BANKING; SHORT-TERM CREDIT; CONSUMER FINANCE
8. BUSINESS FINANCE; INVESTMENTS AND SECURITY MARKETS; INSURANCE
 - a) Business Finance
 - b) Investments and Security Markets
 - c) Insurance
9. PUBLIC FINANCE
10. INTERNATIONAL ECONOMICS
11. BUSINESS ADMINISTRATION
 - a) Business Organization, Administration, Methods, and Management
 - b) Marketing and Advertising
 - c) Accounting
12. INDUSTRIAL ORGANIZATION AND MARKETS; PUBLIC REGULATION OF BUSINESS
 - a) Industrial Organization and Market Controls; Policies Concerning Competition and Monopoly
 - b) Public Regulation and Control of Business; Public Administration; Operation in War and Peace
13. PUBLIC UTILITIES; TRANSPORTATION; COMMUNICATIONS
 - a) Public Utilities
 - b) Transportation
 - c) Communications
14. INDUSTRY STUDIES
 - a) Manufacturing
 - b) Construction
 - c) Service Industries
15. LAND ECONOMICS; AGRICULTURAL ECONOMICS; ECONOMIC GEOGRAPHY
 - a) Land Economics; Conservation of Natural Resources
 - b) Agricultural Economics; Forestry and Fisheries
 - c) Mining and Minerals
 - d) Economic Geography; Regional Planning
 - e) Urban Land; Housing
16. LABOR
17. POPULATION; SOCIAL WELFARE AND LIVING STANDARDS
 - a) Population; Migration and Vital Statistics
 - b) Relief, Public Welfare, Pensions, Social Security (including all public programs)
 - c) Industrial Benefit Programs
 - d) Consumption Economics

CLASSIFICATION OF MEMBERS BY FIELDS OF SPECIALIZATION¹

1. ECONOMIC THEORY; GENERAL ECONOMICS

a) THEORY b) HISTORY OF THEORY c) MATHEMATICAL ECONOMICS

- Ackley, G. 1a,5,6
Adams, G. P., Jr. 1ab,2b,4ab
Adams, J. F. 1,8,10
Adams, W. 1ab,12,2b
Adams, W. W. 1ab,7,11ac
Adrean, T. H. 1a,4a,2b
Akerman, C. 1a,10,2a
Albers, H. H. 1ab,11a,16
Alchian, A. A. 1a,3a,6
Aleksandrowicz, I. 1ab,4a,16
Allen, C. L. 1ac,10,5
Alton, T. P. 1a,4a,3ab
Alvarez Diaz, J. R. 1ab,9,4ab
Aman, J. A. 1a,11,7
Anderson, G. K. 1ab,10,7
Andress, A. E. 1,7,11c
Androm, M. 1ab,4a,5
Anjaria, J. J. 1ab,10,15
Apel, H. 1ab,6,9
Arant, W. D. 1a,9,16
Arnold, A. Z. 1b,3a,4b
Arrilli, D. 1a,5,10
Arrington, L. J. 1ab,6,12
Ashburn, K. E. 1,11a,4
Atkinson, T. R. 1a,7,9
Atkinson, W. M. 1a,9,5
Ayres, C. E. 1ab,4ab,2a
Bagley, W. C., Jr. 1a,2a,5
Baldwin, C. D. 1ab,4a,9
Balling, F. K. 1a,10,15d
Baratz, M. S. 1b,4ab,2b
Barnard, C. I. 1,17,3
Barr, R. J. 1a,10,12a
Beatty, M. A. 1ab,7,2a
Becker, A. P. 1a,8,13a
Bekker, K. 1a,15d,5
Bell, A. L. 1,8,10
Bell, J. F. 1ab,2,7
Bella, S. J. 1,11,16
Biggs, R. M. 1ab,7,12
Bishop, R. L. 1a,12a,6
Bladen, V. W. 1ab,16
Blair, M. M. 1a,3a,15a
Bloch, H. D. 1ab,16,4b
Blodgett, R. H. 1a,4a,5
Bober, M. M. 1b,4a,12a
Bodenhorn, G. D. 1a,7,3
Boulding, K. E. 1,16,9
Bourne, H. A. 1a,7,16
Bovet, E. D. 1a,6,11b
Bowen, H. R. 1a,9,6
Bowers, R. 1a,11c,8a
Bowman, M. J. 1a,6,16
Bowman, R. T. 1a,5,3c
Brand, M. 1ab,6,16
Brann, W. P. 1,14,15
Bray, W. C. 1a,8a,11c
Bronfenbrenner, M. 1ac,3ab,9
Brown, C. K. 1a,13b,7
Brown, S. L. 1a,14b,6
Brown, W. M. 1a,6,10
Brozen, Y. 1ac,7,6
Bryde, T. J. 1b,7,2a
Buchanan, N. S. 1,10,6
Budin, M. 1ab,16,4
Burk, M. 1ac,16,9
Burstein, H. 1ab,10,7
Burtie, J. L. 1a,3b,10
Butlin, S. J. 1ab,9,2a
Butt, W. E. 1a,9,13a
Bye, C. R. 1a,10,2a
Bye, R. T. 1a,4ab
Byrne, E. E. 1ab,10,16
Cady, G. J. 1a,16,12a
Cahill, J. M. 1,9,8a
Carbert, L. E. 1a,7,10
Carey, J. 1a,10,9
Carey, R. L. 1ab,9,16
Carroll, C. A. 1,11,16
Carroll, J. M. 1,4,9
Carter, J. J. 1,6,7
Carver, T. N. 1a,15b,17a
Cazell, G. F. 1a,3a,7
Chamberlin, E. H. 1ab,12a,4b
Chandler, H. 1,9,10
Chen, Y. 1c,3b,8b
Chenault, L. R. 1a,11ac,17a
Chenkin, A. 1a,5,16
Chernick, S. E. 1a,16,6
Chiang, K. Y. 1ac,7,9
Christ, C. F. 1ac,3ab,7
Ciosek, C. P. 1,15cd,12
Clark, F. B. 1b,7,9
Clark, J. M. 1ab,12,6
Clyman, B. 1a,10,5
Collins, W. J. 1ab,16,9
Conway, L. V. 1bc,7,8b
Cooper, W. W. 1ac,3,11c
Copeland, M. A. 1a,5,6
Coppock, J. D. 1a,10,12
Croteau, J. T. 1b,4c,15b
Culbertson, J. M. 1,9,7
Curtis, G. B. 1
Curtis, L. S. 1a,16,4a
Cusack, M. T. 1,10,4
Cutler, H. A. 1a,16,9
Davis, G. C., Jr. 1a,7,11ab
Davis, R. M. 1ab,7,16
Dehem, R. J. 1,6,10
Deibler, F. S. 1a,16,4a
DePous, J. W. 1ab,6,4
Dillard, D. 1ab,2,6
Dillard, L. G. 1a,15d,2a
Dirksen, F. C. 1b
Divine, T. F. 1a,16,10
Dodd, J. H. 1a,11a,2a
Donaldson, D. N. 1ab,7,13ab
Dondero, L. J. 1a,7,16
Dorman, J. 1,2
Douglass, G. A. 1a,17abd,15de
Douglas, P. H. 1a,16,17
Dunn, C. L. 1a,2a,14
Efraymson, C. W. 1a,2a,4
Elam, B. N. 1ab,7,16
Eldridge, J. G. 1ab,9,10
Elliott, G. A. 1,10,7
Enke, S. 1ab,10,3ac
Estey, J. A. 1ab,6,4b
Faucett, P. M., Jr. 1a,3c,5
Feilner, W. J. 1a,5,6
Fetter, F. A. 1ab,12b
Flanders, D. P. 1ac,6,15de
Flink, S. J. 1ab,5,7
Flubacher, J. F. 1b,4,16
Fordham, H. 1,2,9
Foregger, E. H. 1a,3a,7
France, R. W. 1a,4a,16
Freedman, A. M. 1ac,7,10
Friedman, I. H. 1ab,7,6
Friedman, M. 1a,7,3a
Frisinger, H. H. 1a,11ac,12b
Froehlich, W. 1a,12,9
Gale, H. R. 1a,6,7
Gambos, J. S. 1a,16,17b
Garver, F. B. 1ab,12b,4a
Garvin, W. J. 1ac,3,15b
Geeting, R. E. 1ab,2a,7
Gelfand, J. E. 1a,4,6
Gemmill, P. F. 1a,16,4a
Genovese, F. C. 1a 12b,17
Ghozlan, M. I. 1
Gill, J. D. 1
Ginzberg, E. 1ab,16,17b
Glasener, F. R. 1,16,7
Golden, P. 1,4,6
Gooden, O. T. 1ab,16,7
Gordon, D. F. 1ac,6,7
Gordon, H. S. 1a,6,3a
Grad, A. J. 1b,15b,3a
Grady, E. H. 1b,16,4a
Grampp, W. D. 1ab,6,7
Gray, D. H. 1,16,4
Grimes, B. E. 1,10,11b
Grosscup, G. C., Jr. 1a,3a,7
Grosse, A. P. 1ac,3,14a
Grubbs, K. R. 1,16,13
Gruchy, A. G. 1ab,4ab,7
Grunberg, E. S. 1a,10,4a
Gruner, R. W. 1ab,16,7
Gunn, G. T. 1c,9,3b
Hadiaris, N. P. 1a,11c,3a
Hale, E. E. 1ab,4a,6
Haley, B. F. 1ab,10,6
Haley, R. M. 1ab,2a,15d
Hall, R. A. 1ab,9,12a
Hall, W. S. 1,16,14a
Hamilton, D. B. Jr. 1a,12b,8a
Hamot, H. B. 1a,3a,7
Hanchett, P. E. 1ac,9,5
Hardin, R. R. 1b,2,11
Harms, L. T. 1b,4b,7
Hart, A. G. 1a,7,5
Hart, D. J. 1ab,6,4a
Hartland, P. C. 1a,10,15d
Harvill, R. A. 1a,10,6
Hasek, C. W. 1a,6,14
Hawke, E. Q. 1a,2a,9
Hayek, F. A. 1ab,6,4ab
Hayes, J. L. 1ab,11ab,8
Hayward, J. A. 1a,11ac,3a
Heath, M. S. 1ab,2a,13b
Heebner, R. G. 1,2,5
Hench, W. M. 1a,10,11b
Herfindahl, O. C. 1a,5,12a
Hess, A. P., Jr. 1a,3a,15e
Hetzel, A. M. 1a,3a,11
Hewett, W. W. 1ab,9,12b
Hickman, C. A. 1ab,4ab,9
Hildebrand, G. H. 1ab,16,4ab
Hinman, A. G. 1ab,15ae,11b
Hirseman, P. W. 1ac,9,5
Hitch, C. J. 1a,12b,10
Hochwald, W. 1,3,5
Hodgkins, A. R. 1a,17d,12
Hogg, M. W. 1,10,7
Homan, P. T. 1ab,12b,9
Hong, E. N. 1a,8a,9
Hood, W. C. 1,3,10
Hoover, C. B. 1a,4ab,10
Horsfall, G. 1,2,10
Horton, B. J. 1a,5,2a
Howard, W. M. 1a,3a,8
Howenstine, E. J., Jr. 1a,6,9
Hudson, J. T., Jr. 1a,7,4b
Hudson, P. G. 1ab,9,6
Hunt, R. D. 1ab,17,16
Isard, W. 1a,2a,15d
Ise, J. 1a,15ab,4a
Jennings, H. C. 1b,2a,7
Johnson, R. H. 1,9,6
Jones, A. H. 1a,3a,8a
Kaplan, L. J. 1ab,6,9
Kapp, K. W. 1b,10,4ab
Karr, J. R. 1ac,6,3
Katona, G. 1a,5,7
Kerr, P. 1ab,10,16
Kershaw, J. A. 1a,7,10
Kiekhofner, W. H. 1ab,7,4
Kirby, R. M. 1ab,16,4ab
Kirn, B. A. 1a,6,7
Kolodny, J. 1b,2a,4b
Krauskopf, H. K. 1,7,10
Kravis, I. B. 1a,10,16
Kurihara, K. K. 1a,7,10
Kurth, E. A. 1a,7,16
Leamer, L. E. 1ab,2a,7
Leigh, A. H. 1ab,10,7
Lekachman, R. 1b,2a,14a
Leontief, W. W. 1a,3b,4a
Levin, L. B. 1ab,7,6
Leviton, S. A. 1,16,5
Levy, J. 1,3,10
Lindblom, C. E. 1a,4ab,16
Lindsay, S. M. 1ab,16,17b
Lissner, W. 1a,3ab,15a
Loucks, W. N. 1a,4a,16
Lowe, A. 1a,6,10
Lowenthal, E. 1ab,2a
Lurie, S. 1a,7,4a
Lyons, W. 1,3,12
Macario, S. P. 1a,4a,3a
Machlup, F. 1a,7,10
Mack, R. H. 1a,9,4a
MacRae, D., Jr. 1
Madeleine, Sister M. G. 1a,7,8
Maestri Arredondo, R. 1ab,2b,4a
Magrath, C. B. 1a,2a,10
Maier, F. H. 1,7,15
Marschak, J. 1ac,3ab,6
Martin, J. G. 1ac,7,10
Watchett, G. J. 1a,16,10
Mateo, F. A. 1a,2b,4
Mathis, P. C. 1ab,2a,4
Mauldon, F. R. E. 1a,3a,5
Maverick, L. A. 1b,3a,6
Max, W. D. 1a

¹ Names appear only once—in the primary field of member's choice. Second and third fields and specialized subdivisions are indicated by numbers and letters following the name.

- Mayer, J. 1a,5,15ac
 Mayer, T. 1a,6,7
 McClaud, J. W. 1a,16,13b
 McCloud, L. W. 1ac,3c,9
 McClung, R. L. 1,6,4
 McConnell, J. L. 1,4,5
 McCracken, H. L. 1ab,6,16
 McGann, P. W. 1ac,3ab,6
 McGuire, C. H. 1a,6,10
 McIsaac, A. M. 1a,12,13a
 Melton, R. B. 1ab,16,17bd
 Mendelson, M. 1a,3a,7
 Mendez, J. M. 1a,10,17a
 Meyers, A. L. 1,7,10
 Michalik, B. A. 1a,10,7
 Miernyk, W. H. 1ab,5,16
 Miller, B. O. 1ab,7,13b
 Miller, V. B. 1ab,6,14b
 Millikan, M. F. 1ac,6,13b
 Minsky, H. P. 1ac,7,6
 Moffat, J. E. 1,4,17abd
 Mogilnitsky, T. A. 1b,4a,7
 Moiseeff, M. 1ab,6,10
 Monroe, A. E. 1ab,7,9
 Moore, F. W. 1ab,11ab,12
 Moore, W. J. 1,11,9
 Morgan, J. N. 1ac,3ab,17d
 Morgenstern, O. 1,6,3
 Morse, H. C. 1a,10,4a
 Mosak, J. L. 1ac,3ab,10
 Mosconi, D. L. 1ab,8ab,7
 Mund, V. A. 1ab,12
 Murdock, J. C. 1a,7,2a
 Myers, H. B. 1a,6,3a
 Neff, P. 1a,6,7
 Neisser, H. P. 1ac,6,10
 Nerlove, S. H. 1a,8bc,11ac
 Newman, P. C. 1b,12,10
 Nicol, H. O. 1ab,6,10
 Niebyl, K. H. 1ab,7,16
 Nordin, J. A. 1ac,13a,3
 Nowicki, R. J. 1a,3c,8b
 Noyes, C. R. 1,7,8
 Nutter, G. W. 1a,10,12a
 O'Connor, M. J. L. 1ab,16,2
 O'Donnell, W. G. 1ab,13,16
 Oldman, O. S. 1a,14b,10
 O'Leary, J. J. 1ab,8ab,7
 Oliver, H. M., Jr. 1a,6,4a
 Palmer, D. 1,11,16
 Palmer, J. T. 1ab,15ab,10
 Patinkin, D. 1ac,3b,7
 Patterson, S. H. 1b,16,2a
 Patton, R. D. 1b,2a,4a
 Paustian, P. W. 1ab,2b,17d
 Pendleton, W. C. 1a,15b,7
 Percefull, S. C. 1a,6,9
 Perroux, F. 1a,5,10
 Pettengill, R. B. 1a,10,12b
 Pfuntner, C. H. 1,2,10
 Phelps, C. W. 1ab,7,11b
 Philbrook, C. 1a,6,10
 Plotnik, M. J. 1a,7,15ab
 Plummer, W. C. 1a,2a,7
 Poindexter, J. C. 1a,9,7
 Potter, A. A. 1a,4a,15b
 Potter, A. N. 1a,5,9
 Powers, R. 1a,16,11c
 Preinreich, G. A. D. 1c,11c,8a
 Pribram, K. 1b,10,16
 Puente-Duany, R. B. 1,7,10
 Raymaker, C. L. 1ab,16,2
 Reynolds, L. G. 1,12,16
 Ritter, L. S. 1a,6,16
 Ritz, P. M. 1ab,3ac,14a
 Rivera, H. J. 1a,9,3
 Rockafellow, R. 1a,7,2a
 Röpke, W. 1a,10,6
 Roseman, A. C. 1a,7,6
 Rosen, G. 1ab,7,16
 Ruggles, N. D. 1a,4a,12b
 Ruggles, R. 1a,2b,12a
 Runge, E. J. 1ab,2,16
 Sametz, A. W. 1b,6,7
 Sass, F. N. 1ac,16,3
 Schenck, W. E. 1ab,4b,9
 Schmidt, B. G. 1a,11ab,17d
 Schultz, R. 1b,8a,16
 Schumpeter, J. A. 1,6,3
 Schurman, B. 1b,4a,16
 Schwartz, E. 1a,7,11c
 Scott, I. O., Jr. 1,5,7
 Seal, H. C. 1a,2a
 Seetho, D. M. 1a,6,11
 Seligman, B. E. 1ab,17a,6
 Serrano, K. A. 1ab,10,7
 Serrano, E. E. 1a,3a,17a
 Shafer, J. E. 1a,7,6
 Shahan, E. P. 1b,2a,6
 Shaulis, L. L. 1,11,8
 Shea, J. L. 1a,4a,16
 Sheehan, J. H. 1b,17d,10
 Sherrard, A. 1,5,7
 Sievers, A. M. 1,4,3a
 Silberner, E. 1b,2a,4a
 Silvanie, H. 1a,10,6
 Silvanie, S. R. 1,15,2
 Simonds, R. H. 1a,7,16
 Simons, M. W. 1,4,16
 Slesinger, R. E. 1a,12,16
 Sloan, V. B. 1ab,16,17bcd
 Smith, V. E. 1,3b,12
 Smythe, L. T. 1ab,7,17d
 Solterer, J. 1,3b,4b
 Sommer, L. 1ab,10,7
 Spencer, M. J. 1a,7,16
 Spiegel, H. W. 1a,10,12
 Spingarn, E. D. W. 1a,10,4a
 Spruill, C. P. 1a,9,4a
 Stigler, G. J. 1ab,12a,14c
 Stocker, N. R. 1,3,6
 Stolper, W. F. 1a,10,6
 Stonesifer, G. R. 1ab,8b,7
 Street, J. H. 1ab,10,7
 Strickland, M. A. 1,16,6
 Strotz, R. H. 1ac,7,3
 Sumberg, T. A. 1,10,6
 Surányi-Unger, T. V. 1a,10,3a
 Tagliacozzo, G. 1ab,4,17b
 Tandy, W. L. 1a,17d,4
 Taylor, O. H. 1ab,4a,2a
 Tenenbaum, H. 1ab,7,10
 Terpenning, W. A. 1a,16,4c
 Teweles, R. J. 1ab,7,11b
 Theodore, D. E. 1a,12b,4c
 Thomas, R. D. 1ab,9,16
 Thompson, C. M. 1a,2a
 Thomson, D. L. 1ab,2a,6
 Thomson, P. 1a,7,15b
 Tintner, G. 1c,3b,6
 Townsend, R. G. 1ab,12,6
 Traywick, L. E. 1ab,3a,2a
 Triantis, S. 1a,7,2b
 Triffin, R. 1a,7,10
 Tuttle, A. M. 1c,3,16
 Tuttle, F. W. 1a,7,2a
 Tyndall, D. G. 1a,6,8a
 Uhr, C. G. 1ab,9,6
 Ullrich, F. J. 1a,16,10
 Ulmer, M. J. 1,3,6
 Valencia, J. C. 1a,10,16
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 Vickers, E. H. 1ab,2a,9
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a) BUSINESS ORGANIZATION, ADMINISTRATION, METHODS, AND MANAGEMENT

b) MARKETING AND ADVERTISING

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12. INDUSTRIAL ORGANIZATION AND MARKETS; PUBLIC REGULATION OF BUSINESS

- a) INDUSTRIAL ORGANIZATION AND MARKET CONTROLS; POLICIES
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- b) PUBLIC REGULATION AND CONTROL OF BUSINESS; PUBLIC
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Cahn, F. T.
Cairns, A.
Cammack, T. E.
Campbell, D.
Campbell, F. N.
Campbell, K. H.
Caplan, B.
Carlson, K. E.
Carnegie Endowment for Int. Peace Lib., 700 Jackson Pl.
Cassidy, E.

- Catholic Univ. of Amer. Lib.*
 Cazell, G. F.
Central Intelligence Group,
Mail Rm. Lib., 2430 E St.,
N.W.
 Chalfin, S.
 Chalmers, H.
Chamber of Commerce of the
U.S., 1615 H St., N.W.
 Chang, T.-C., *Int. Monetary*
Fund, 1818 H St., N.W.
 Chase, C. H.
 Chawner, L. J.
 Checchi, V.
 Cherin, G.
 Cheyfitz, E. T.
 Cheyney, W. J.
 Childs, J. B.
 Christelow, A.
 Christelow, D. B.
 Christian, D. E.
 Clague, E.
 Clark, E. H.
 Clark, J. D.
 Clark, M.
 Cohan, A. B.
 Cohen, M.
 Coil, E. J.
 Colbjornsen, O.
 Colby, B.
 Cole, D. M.
 Colm, G.
 Comer, G. P.
 Conley, G. B.
 Conrad, M. W.
 Coogan, J. F.
 Cook, R. C.
 Cooper, C. L.
 Cooper, E. N.
 Cooper, O.
 Copeland, J.
 Copeland, M. A.
 Coppock, J. D.
 Cover, J. H.
 Craig, D. R.
 Cronin, J. F.
 Croteau, J. T.
 Crowder, E. T., Jr.
 Cruz, E. L.
 Culbertson, W. S.
 Cummings, H. J.
 Cunningham, H. M.
 Curtis, R. E.
 Cushman, B.
 Cutts, J. M.
 Das, R. K.
 David, R. S.
 Davidson, J.
 Davis, J. C.
 Davison, S.
 Dearing, C. L.
 de Beers, J. S.
 de Echegaray, Miguel, *Span-*
ish Embassy, Agric. Office
- Deimel, H. L., Jr.
 Dembitz, L. N.
 Demond, H. F.
 Dennison, E. E.
 de Santamaria, C.
 de Schweinitz, D.
Diplomatic Affairs Found.,
1906 Florida Ave., N.W.
Director of the Mint, Treas.
Dept.
 Dollymore, N. E.
 Donohoe, J. M.
 Douglass, P. F.
 Douty, H. M.
 Draisner, A. M.
 Draper, E. G.
 Dreyhausen, H. V.
 Drury, H. B.
 Ducoff, L. J.
Dunbarton Col. Lib., 2935
Upton St., N.W.
 Duncan, C. S.
 Durand, E. D.
 Eckard, M. B.
 Eckert, J. B.
 Eckler, A. R.
 Edfeldt, T. R.
 Edminster, L. R.
 Edwards, F. K.
 Edwards, W. R.
 Efross, S. T.
 Eldridge, L. E.
 Ellickson, J. C.
 Ellickson, K. P.
 Ely, J. E.
Embassy of Pakistan, Shore-
ham Hotel
 Endler, O. L.
 Epstein, J. B.
 Estey, M. S.
 Evans, P.
Executive Office of the Presi-
dent, Bur. of the Budget,
17th and Pennsylvania
Ave., State Dept. Bldg.,
Rm. 452
 Ewing, J. B.
 Ezekiel, M.
 Falk, E.
 Falk, I. S.
 Farber, D. J.
 Farber, E. W.
 Fautz, E.
Fed. Commun. Com., Acctg.
Dept., Statis. Div.
Fed. Deposit Ins. Corp. Lib.,
Rm. 766, Nat. Press Bldg.
Fed. Housing Admin. Lib.,
Vermont Ave. and K St.,
N.W., Rm. 420
Fed. Trade Com. Lib., Penn-
sylvania Ave. at 6th St.,
N.W.
 Fefferman, A. S.
- Feis, H.
 Felsenthal, L.
 Ferrand, M. M.
 Field, B. B.
 Firfer, A.
 Fisher, A. G. B.
 FitzPatrick, P. J.
 Flanders, R. E.
 Fleisher, B.
 Fleisher, B. H.
 Fletcher, R. D.
 Flores, E.
Food and Agric. Org. of U.
N., 1201 Connecticut Ave.,
N.W.
Foreign Serv. Inst., Dept. of
State, 2115 C St., N.W.
 Fox, L.
 Fox, M. J.
 Franck, P. G.
French Commercial Coun-
selor, 1822 Massachusetts
Ave., N.W.
French Commercial Coun-
selor, Direction Documen-
tation Economique, 2129
Wyoming Ave., N.W.
French Commercial Coun-
selor, 2129 Wyoming Ave.
French Financial Counselor,
1822 Massachusetts Ave.,
N.W.
French Food Mission, 1328
18th St., N.W.
 Fried, E. R.
 Friedberg, M.
 Friedman, I. S.
 Friedrich, W. G.
 Friend, I.
 Fulcher, G. S.
 Furman, J. P.
 Furth, J. H.
 Gardner, F. A.
 Gardner, K. B.
 Garvin, W. J.
George Washington Univ.
Lib.
Georgetown Univ., Riggs
Memorial Lib.
Georgetown Univ., School of
Foreign Serv. Lib.
 Gerlando, P.
 Gerschenkron, A.
 Gilmartin, W. M.
 Gilmore, E. A., Jr.
 Ginzburg, B.
 Glantz, H. H.
 Goldberg, J. P.
 Goldfield, E. D.
 Goldfinger, N.
 Goldin, H. H.
 Goldsmith, R. W.
 Goley, B. T.
 Golovin, N. E.

- Goott, D.
 Gorham, J. E.
 Gorinson, M.
 Gorlitz, S. J.
 Goss, B. C.
 Gottsegen, J. J.
 Grady, H. F.
 Gray, E. R.
 Gray, E. S.
 Grose, L.
 Grove, D. L.
 Gunin, S. T.
 Gunn, G. T.
 Guttman, B.
 Haas, G. C.
 Haase, H.
*Habjanic, Beno, Embassy of
 Fed. People's Rep. of Yu-
 goslavia, 1818 24th St.,
 N.W.*
 Hallauer, F. J.
 Hallowell, E. W.
 Halvorson, L. C.
 Ham, W. T.
 Hammer, M.
 Hammerman, H.
 Hanchett, P. E.
 Handler, A. B.
 Haney, P. E.
 Hanks, J. J.
 Hansen, M. H.
 Hanson, A. C.
 Hardy, C. O.
 Harris, F.
 Havlik, H. F.
 Hayes, M.
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 Heflebower, R. B.
 Heine, I. M.
 Hellman, R.
 Helm, F.
 Henderson, I.
 Hendrix, W. E.
 Hetzel, A. M.
 Heuser, H. K.
 Hexner, E.
 Hill, S. S., Jr.
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 Hilton, H., Jr.
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 Hinshaw, R. W.
 Hirschman, A. O.
 Hitch, T. K.
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 Hoffenberg, B. S.
 Holley, H. L.
 Holley, J. L.
 Holloway, C. S.
 Holmes, F. C.
 Homan, P. T.
 Homberger, L. M.
 Hoover, E. M.
 Hopkins, J. A.
 Horton, D. C.
- Houchins, J. R.
*Howard Univ. Lib., Serials
 Dept.*
 Howard, J. B.
 Hunter, K. H.
 Hunter, L. C.
 Husband, W. H.
*Ind. Col. of Armed Forces,
 Rm. 215, T-5 AWC Post,
 4th and P Sts., S.W.*
*Int. Monetary Fund Lib.,
 1818 H St., N.W.*
 Isaac, C. M.
 Jacobson, K.
 Jacobstein, M.
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*Jakes, Robert, 3415 38th St.,
 N.W.*
 Jarboe, P. W.
 Jarrett, J. M.
 Jenkins, D. R.
 Jenkins, S.
 Johnson, E. C.
 Johnson, E. H.
 Johnston, R. H.
*Jones, Edgar, United King-
 dom Treas., Delegation,
 Rm. 603, Bradford Bldg.,
 P.O. Box 680, Benjamin
 Franklin Sta.*
 Jones, H.
 Justine, Sister M.
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 Kantor, H. S.
 Kaplan, A. D. H.
 Kaplan, D. L.
 Kaplan, J. J.
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 Kaufmann, J.
 Keating, M. D.
 Kefauver, E. O.
 Keim, W. G.
 Keller, F. E.
 Kendrick, J. W.
 Kennedy, D. D.
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 Kenyon, K. A.
 Keyes, A. H., Jr.
 Keyserling, L. H.
 Keyserling, M. D.
 Kimmel, L. H.
 King, R. C.
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 Kirsten, M. H.
 Klein, J.
 Knapp, J. G.
 Kneeland, H.
 Knox, N. B.
 Koch, A. R.
 Kohn, P.
- Koretz, S.
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 Kress, A. J.
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 Kurth, E. A.
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 Latimer, M. W.
 Lam, M.
 Lanahan, T. J., Jr.
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 Leslie, G.
 Lester, A. H.
 Leung, P. K.
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 Levine, D. B.
 Lewins, L.
 Lewis, E. E.
 Lewis, Sir W.
 Liang, A.
*Lib. of Congress, Accessions
 Div.*
 Liebenberg, M.
 Lieu, D. K.
 Lightman, J. M.
 Lindman, B. H.
 Livingstone, E. L.
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 Loftus, J. A.
 Loftus, J. E.
 Long, W. F. E., II
 Lorwin, L. L.
 Lusher, D. W.
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 Malin, M.
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 Margolin, R.
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 Matlock, C. C.
 Maurer, L. D.
 Mayer, J.
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 McCalley, J. W.
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 McGraw, B. T.
 McGregor, H. E.
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 McNairy, L. G.
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 Meehan, M. J.
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 Merwin, C. L.
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 Meyer, E.
 Michael, B.

- Miller, A. C.
 Miller, H. H.
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 Milne, M. L.
 Mintzes, J.
 Mitchell, A. W.
 Mitchell, S. R.
 Mittelman, E. B.
 Mladek, J. V.
Modreti, A., 2501 Calvert St.
 Moll, J. R.
 Monchow, H. C.
 Moore, W. H.
 Morgan, C. S.
 Morrill, C.
*Mortensen, Erik H., 5331
 16th St., N.W.*
 Moulton, E. S.
 Moulton, H. G.
 Mucha, F. A.
 Mui, K. C.
 Mulliken, J. H.
 Mulliken, O. E.
 Munroe, J.
 Murphy, H. C.
 Murphy, E. G.
 Myers, D. A. B.
 Myers, R. J.
*Myrick, Donald, 2123 Cali-
 fornia St., N.W.*
 Naidel, S.
 Nathan, R. R.
*Nat. Archives Lib., Rm.
 B-4-C*
*Nat. Educa. Asso. Lib., 1201
 16th St., N.W.*
*Nat. Labor Rela. Bd. Lib.,
 815 Connecticut Ave.,
 N.W., Rm. 413*
*Nat. Sec. Resources Bd. Lib.,
 Soc. Sec. Bldg.*
*Nat. War. Col. Lib., Period.
 Sec.*
 Nehmer, S.
 Nelson, M. G.
 Nelson, R. S.
*Netherlands Embassy, Office
 of Com. Coun., 1620 Bel-
 mont St., N.W.*
 Netreba, S. S.
 Neustadt, R. E.
 Nielsen, A. L.
 Nienburg, B. M.
 Norton, H. S.
 Nourse, E. G.
 Oakes, E. E.
 Oderkirk, A. D.
 O'Donnell, A. F.
 O'Grady, J.
 Oliver, E. L.
 Olson, E. C.
 Osborne, E. L.
*Ostos, Raul Martinez, Rm.
 924, 1818 H St., N.W.*
 Otis, A. S.
 Owens, R. N.
 Pabst, W. R., Jr.
 Parmelee, J. H.
 Parmelee, R. C.
 Parry, C. E.
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 Pawley, W. H.
 Pazos, F.
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 Pechman, J.
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 Perry, J. G.
 Pettee, G. S.
 Pettingill, S. A.
 Pfuntner, C. H.
 Pierson, J. H. G.
 Pinto, P. J. J.
 Piquet, H. S.
 Planting, M. P.
 Plimsoll, J.
 Polak, J. J.
 Polinsky, E. J.
 Posniak, E. G.
 Poulton, E. G.
 Powell, F. E.
 Pribram, K.
 Pruefer, C. H.
*Pub. Lib., Period. Div., 455
 Pennsylvania Ave., N.W.*
*Pub. Roads Admin. Lib.,
 Fed. Works Bldg., 18th and
 F Sts., N.W.*
 Quigley, C.
 Radius, W. A.
 Ramsey, F.
 Rao, S. R. N. B.
 Ray, D. P.
 Reece, B. C.
 Reed, S. H.
 Reifler, D. B.
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 Reinertsen, P. A.
 Remington, W. W.
 Rice, S. A.
 Richards, L. J.
 Richter, J. H.
 Ripps, E. L.
 Rivet, K. B.
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 Roberts, W. H.
 Roman, A.
 Rosa, J.
 Rosen, M. M.
 Rosenbaum, D.
 Rosenson, A. M.
 Rosenthal, J.
 Ross, J. A., Jr.
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 Rowe, W. H.
 Rubenstein, I.
 Russell, R.
 Sáenz, F. R.
 Salant, W. A.
 Salant, W. S.
 Sandelin, G. L.
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 Sasuly, M.
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 Sharounis, A.
 Schechter, H. B.
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 Schiff, M. S.
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 Schuller, G. J.
 Schwartz, B.
 Schwartz, G.
 Schwartz, M. J.
 Schwartz, R. J.
 Schwartzman, S.
 Schweiger, I.
 Scoll, E. E.
*SEC Lib., 425 Second St.,
 N.W.*
 Selko, D. T.
 Sevin, C. H.
 Shaffner, F. I.
 Sham, D.
 Shapiro, S.
 Sharron, A. O.
 Sheftel, H. B.
 Shelton, W. A.
 Shelton, W. C.
 Shenefield, H. T.
 Shepherd, G. C., Jr.
 Shere, L.
 Sherr, H.
 Shishkin, B. B.
 Shor, M.
 Shurberg, M.
 Shute, J.
 Siegel, I. H.
 Silberman, J. M.
 Sims, L. B.
 Siskind, D. I.
 Skaug, A.
 Skow, N. P.
 Slitor, R. E.
 Smelker, M.
 Smelker, M. W.
 Smigel, S. E.
 Smith, G. C., Jr.
 Smith, J. B., Jr.
 Smith, J. H.
 Smith, N. L.
 Smithies, A.
 Smull, C.
*Soc. Sec. Admin. Lib., 4th
 and Independence Ave.,
 N.W., Rm. 1206*
 Soltar, E. B.

Soper, G.
 Southworth, C.
 Southworth, H. M.
Spanish Embassy, Commercial Office, 1629 Columbia Rd., N.W.
 Spencer, R. C.
 Spiegel, H. W.
 Spiro, B. P.
 Spitzer, E. G.
 Splawn, W. M. W.
 Staats, E. B.
 Stark, J. R.
 Stecker, M. L.
 Stehman, J. H.
 Stern, B.
 Stettner, W. F.
 Stevens, W. H. S.
 Stevenson, A.
 Stewart, C. D.
 Stine, O. C.
 Stinebower, L. D.
 Stoflet, A. M.
Stromberg, Raymond, 1 Hawaii Ave., N.E., Apt. 108
 Sturc, E.
 Tamagna, F. W.
 Taub, E. S.
 Taylor, A. F.
 Taylor, C. V.
 Taylor, J. S.
 Taylor, M. F. W.
 Taylor, W. C.
 Tepper, L.
 Tesoro, G. A.
 Thompson, J. G.
 Thompson, S. H.
 Thorp, W. L.
 Thresher, M. B.
 Tibbits, G. D.
 Timberg, S.
 Tolley, H. R.
 Tompkins, R. W.
 Topkis, B. H.
Treas. Dept. Lib., Rm. 5013
 Triffin, R.
Trinity Col. Lib.
 Truesdell, L. E.
 Tuchman, J. M.
 Tucker, J. F.
 Turnbull, J. G.
 Tuthill, J. W.
U. S. Civil Serv. Com. Lib., 8th and F Sts., N.W.
U. S. Dept. of Agric. Lib.
U. S. Dept. of Com., Office of Dom. Com., Mailroom, Commerce Bldg.
U. S. Dept. of Com. Lib., Commerce Bldg.
U. S. Dept. of Interior, Bur. of Reclamation Lib., 18th and E Sts., N.W.

U. S. Dept. of Justice, Main Lib.
U. S. Dept. of Labor Lib.
U. S. Dept. of State, Acquisition and Dist. Div., Rm. 128, War Annex 1, 401 23rd St., N.W.
U. S. Dept. of State Lib.
U. S. Info. Lib., Amer. Leg. Budapest, Hungary, c/o For. Service Mail Rm., Dept. of State
U. S. Info. Lib., Amer. Embassy, Prague, c/o For. Serv. Mail Rm., Dept. of State
U. S. Info. Lib., Amer. Embassy, Warsaw, c/o For. Serv. Mail Rm., Dept. of State
U. S. Info. Lib., U. S. Mission, Sofia, Bulgaria, c/o For. Serv. Mail Rm., Dept. of State
U. S. Info. Lib., Belgrade, Yugoslavia for Zagreb, For. Serv. Mail Rm., Dept. of State
U. S. Senate Lib.
U. S. Tariff Com. Lib.
 Unterberger, S. H.
 Upham, C. B.
 Ursell, L. C.
 Valgren, V. N.
 Van Tuyl, H. L.
 Veatch, R.
Veterans Admin, 300 Eye St., N.E.
Veterans Admin., General Ref. Lib., Vermont Ave. and Eye St., N.W.
 Voss, W. J.
Wainger, Jack, 3221 Livingston St.
 Wald, H. P.
 Walker, F.
 Walker, J. E.
 Wall, N. J.
 Walsh, J. J.
War Dept., Pentagon Lib., Rm. 1-A-522 Pentagon
 Warne, F. J.
 Warner, R. K.
 Wasserman, M. J.
 Wasson, R. C.
 Waterston, A.
 Watkins, C. D.
 Watson, D. S.
 Waugh, F. V.
 Webb, W. Y.
 Webbink, G. F.
 Webbink, P.
 Weber, H. J.
 Weidenhammer, R. M.

Weiner, C. M.
 Weisblat, A. M.
 Weiss, F. J.
 Weiss, L.
 Welch, E. H.
 Welk, W. G.
 Wermel, M. T.
 Wexler, H. J.
 Weyl, N.
 Whelan, C. J.
 White, W. L.
 Whitman, R. H.
 Wigder, P.
 Williams, F. M.
 Williams, R. S.
 Wilmeth, J. B.
 Wimsatt, G. B.
 Winston, C.
 Wolf, A. C.
 Wolkind, E.
 Wood, H.
 Wood, L.
 Wood, R.
 Woodley, W. J. R.
 Woytinsky, W. S.
 Wright, J. W.
 Wythe, G.
 Yager, J. A.
 Young, R. A.
 Youngdahl, C. R.
 Youngman, A. P.
Yu, Kuo-Hwa, Int. Bank for Reconstruction and Development, 1818 H St., N.W.
 Zaglits, O.
 Zapoleon, L. B.
 Zapoleon, M. W.
 Zuckerman, I.

FLORIDA

Avon Park

Donaldson, J.

Babson Park

Webber Col. Lib.

Coral Gables

Axelson, I.
 Bradbury, R. W.
 Carney, J. J., Jr.
 Corson, W. R.
 McCracken, E. M.
 Noetzel, G. A. J.
Univ. of Miami Lib.

De Land

John B. Stetson Univ. Lib.
Harkness, Robert M., 415 E. New York Ave.
 Spurrier, L.

Fort Myers

Geeting, R. E.

Fruitland Park

Frame, W. A.

Gainesville

Bigham, T. C.
 Chace, J. E., Jr.
 Cunkle, A. L.
 Da Vault, J. W.
 Deinzer, H. T.
 Dictz, J. W.
 Dolbeare, H. B.
 Donovan, C. H.
 Donovan, E. W.
 Eldridge, J. G.
 Guild, C. J.
 Heskin, O. E.
 Noble, C. V.
 Ring, A. A.
 Shields, M. W.
 Tuttle, F. W.
*Univ. of Florida, General
 Ext. Div., 8th Fl., Seagle
 Bldg.*
Univ. of Florida Lib.

Jacksonville

Hauber, Joseph A., 1538 May
 St.
*Jacksonville Junior Col. Lib.,
 704 Riverside Ave.*
*Jacksonville Pub. Lib., 101 E.
 Adams St.*

Lake Wales

Galloway, L.

Marianna*Chipola Junior Col. Lib.***Miami**

Barry Col. Lib., 11300 N.E.
 2nd Ave.
 Hard, William, 4030 Poinci-
 ana Ave., Coconut Grove
 Holdsworth, J. T.
 Westerlund, B. A.
 Wolff, R. P.

Miami Beach*Miami Beach Pub. Lib.***New Smyrna Beach**

Smith, C. N.

St. Petersburg

Bolton, H. L., 4455 3rd Ave.
 S.
Pub. Lib.

Tallahassee

*Florida State Univ. Lib.,
 East Campus*
 Heather, G.
 Meek, G. P.
 Morse, R. I.
 O'Donnell, W. G.
 Sepmeier, K. A.

Tampa*Univ. of Tampa Lib.***Winter Park**

France, R. W.
 Melcher, W.
 Shaw, A.

GEORGIA**Athens**

Brooks, R. P.
 Gates, J. E.
 Hicks, W. T.
 McGrath, L. P.
 Sutton, G. W.
*Univ. of Georgia, General
 Lib.*
 West, S. D., Jr.

Atlanta

Atlanta Univ. Lib.
 Blount, C. G., Hass & Dodd
 Brewster, M. R.
 Bryan, Malcolm, Trust Co.
 of Georgia, P.O. Box 4418
Carnegie Lib.
 Clark Col., Georgia Smith
 Keeney Lib.
*Community Planning Coun.,
 11 Pryor St., S.W., Rm.
 210*
 Cottle, C. S.
 Dugger, L. M.
Georgia School of Tech. Lib.
 Goff, J. H.
Fed. Res. Bank Lib.
 Meyers, F.
 Mitchell, G. S.
 Smith, L.
*U. S. Dept. of Agric. Lib.,
 Atlanta Br., 914 Glenn
 Bldg.*
*Univ. System Center Lib., 24
 Ivy St., S.E.*

Augusta*Junior Col. of Augusta Lib.***Carrollton***West Georgia Col. Lib.***Collegeboro***Georgia Teachers Col. Lib.***Dahlonega***North Georgia Col. Lib.***Decatur***Agnes Scott Col. Lib.***Emory University**

Brandis, R. B.
*Emory Univ., School of Bus.
 Lib.*
 Griffin, A.
 May, D. J.
 Siefkin, G.
 Whitman, W. T.

Fort Valley

*Fort Valley State Col.,
 Carnegie Lib.*

Gainesville*Brenau Col. Lib.***Macon**

Mercer Univ. Lib.
*Wesleyan Col., Candler Me-
 morial Lib.*

Marietta

Taylor, C. T.

Milledgeville

*Georgia State Col. for
 Women Lib.*

Mt. Berry*Berry School, Memorial Lib.***Rome***Shorter Col. Lib.***Savannah**

Georgia State Col. Lib.
 Grubbs, W. M.
*Univ. of Georgia, Off Cam-
 pus Center, c/o Armstrong
 Junior Col.*

Valdosta*Georgia State Woman's Col.***HAWAII****Honolulu**

*Hawaiian Econ. Found.,
 Alexander Young Bldg.,
 1015 Bishop St.*
 Kamins, R. M.
 Kirkpatrick, A. L.
 Kirkpatrick, N. B.
 Kraemer, E. O.

Lib. of Hawaii
Nicol, A. H.
Roberts, H. S.
Univ. of Hawaii Lib.

IDAHO

Boise
Boise Pub. Lib.
Wilcox, R. W.

Caldwell
Bollinger, W. L.
Brock, L. V.

Farragut
Schuhmann, A.

Lewiston
*Northern Idaho Col. of
Educa., Educa. Dept.*

Moscow
Folz, W. E.
Graue, E.
Univ. of Idaho Lib.

Nampa
*Northwest Nazarene Col.
Lib.*

Pocatello
Idaho State Col. Lib.
Stevenson, R. C.

ILLINOIS

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Atkinson
Schwarz, J. H.

Aurora
Aurora Col. Lib.
Aurora Pub. Lib.
Sommer, L.

Belleville
Brault, F.

Berwyn
Joachim, J.

Bloomington
Beadles, W. T.

Carbondale
Lay, C. F.

Maverick, L. A.
Morrison, V. G.
Ogden, S. S.
Orden, S. R.
Pitkin, W. A.
Rehn, H. J.
*Southern Illinois State Nor-
mal Univ., General Lib.*

Carlinville
Blackburn Col. Lib.
Plotnik, M. J.

Carpentersville
Shields, H. G.

Centralia
Hall, W. S.

Champaign
Allen, H. K.
Bryan, L. A.
Carlton, G.
Currier, F. P.
Derber, M.
Fristoe, C. W.
Greenwood, H. P.
Gustafson, W. A.
Horowitz, M. A.
Jackendoff, N.
Kemmerer, D. L.
Kleiner, G.
Thompson, C. M.
Weston, J. L.

Charleston
*Eastern Illinois State Teach-
ers Col. Lib.*

Chicago
Abbott, E.
Adams, W. B.
Allen, H. H.
Anrod, C. W.
Arant, W. D.
Arthur, H. B.
Ashida, J. H.
Barriger, J. W.
Beretvas, A.
Bernstein, J.
Bethke, W.
Beveridge, O. M.
Bieber, G. D.
Blackburn, B.
Blaine, Mrs. E.
Blough, R.
Boatwright, J. W.
Bodenhorn, G. D.
Bodfish, M.
Boehmler, E. W.
Bold, E.
Bourne, H. A.

Bowler, J. F.
Bowman, W. S., Jr.
Brinegar, G. K.
Broomfield, J. L.
Brown, G. H.
Burgess, K. F.
Burns, R. K.
Bursler, N.
Burtle, J. L.
Bush, W. K.
Cahn, B. J.
Carson, D.
*Casabianca, Jaime, 6654 N.
Glenwood*
Chandler, H.
Chiang, K. Y.
*Chicago City Junior Col.,
Wright Br., 3400 N. Aus-
tin Blvd.*
*Chicago Pub. Lib., Book Se-
lection Div., 78 E. Wash-
ington St.*
*Chicago Pub. Lib., Period.
Rm., 78 E. Washington St.*
Chicago Tribune Lib.
Christ, C.
Ciaccio, J. N.
Cohen, J.
Cohen, M. A.
Cohn, S. H.
Coleman, J. R.
*Commonwealth Edison Co.,
Territorial Info. Dept.,
140 S. Dearborn St., Rm.
777*
Conley, W. H.
Cooper, L. W.
Cowles, A.
Cox, G. V.
*Cunningham, J. A., Container
Corp. of Amer., 38 S.
Dearborn St.*
Dailey, D. M.
de Ford, H. J.
Deif, N. A.
*De Paul Univ., Col. of Com.,
64 E. Lake St., Rm. 1405*
Dickinson, F. G.
Doan, M. C.
*Dolnick, David, 201 N. Wells
St.*
Donnelley, T. E.
Douglas, J. H., Jr.
Douglas, P. H.
Eber, M.
Eck, S. B.
Eldridge, D. H.
*Enenbach, F. H., Prentice-
Hall, Inc., 222 W. Adams
St.*
Estrem, T. S.
Eulenberg, A.
Falick, A. M.
Fairchild, R. R.

- Fed. Res. Bank Lib., P.O. Box 834*
 Feigon, G. J.
 Fentress, C.
First Nat. Bank of Chicago Lib., Box A
 Fish, H.
 Flanders, J.
 Forth, M. L.
 Frank, W. A.
 Franks, T. W.
 Frazer, G. E.
Frederick H. Hild Reg. Lib., 1536 Lincoln Ave.
 Friedman, M.
Froomkin, Joseph N., 642 Int. House, 1414 East 59th St.
 Fuller, D. R.
 Graves, C. R.
 Glidden, R. T.
 Goldman, I. S.
 Golightly, T. H.
 Gomburg, M.
 Goode, R. B.
 Goodwin, E. B.
 Gott, P. P.
 Graham, W. J.
 Grampo, W. D.
 Gregoria, Sister M.
 Griffenhagen, E. O.
 Hackman, J.
 Halasi, A. B.
 Hamilton, E. J.
 Hampel, L. F.
 Harbison, F. H.
 Harris, A. L.
Harrison, Carter, Houghton Mifflin Co., 2500 Prairie Ave.
 Hartwig, R. T.
 Hauser, P. M.
 Haverkamp, L. J.
 Heineman, B. W.
 Henig, H.
Henry E. Legler Reg. Br. Lib., 115 S. Pulaski Rd.
 Herzel, W. G.
Herzl Junior Col. Lib., 3711 Douglas Blvd.
 Heusner, W. W.
 Himmelblau, D.
 Hogan, T. E.
 Hogg, M. W.
 Holleb, M. M.
 Holt, C. C.
 Hoselitz, B. F.
 Howard, B. B.
 Hudson, H. D.
 Huelster, L. F.
 Hunt, E. F.
Illinois Agric. Assoc., Res. Dept., 43 E. Ohio St.
Illinois Inst. of Tech. Lib., Armour Col. of Engr., 3300 Federal St.
Richard D. Irwin, Inc., 332 S. Michigan Ave.
 Jansson, R. E.
 Jack, J. E.
John Crerar Lib.
 Johnson, D. G.
 Johnson, H. W.
 Jones, M. V.
 Jones, R. V.
 Jones, R. W.
 Jorgensen, G. L.
 Kahn, L.
 Kandyba, B. S.
 Kaplan, N.
 Kellogg, J. P.
 Kent, L.
 Kester, H. I.
 Ketchum, M. D.
 Knight, F. H.
 Kohler, E. L.
 Koivisto, W. A.
 Kolbe, F. F.
 Koopmans, T.
 Kouperman, A. B.
 Krolick, R. H.
 Krueger, M. C.
 Kuipers, L.
 Kyrk, H.
 Landau, S.
 Langsner, A.
 Langum, J. K.
 Lawrence, G. J.
 Leamer, L. E.
 Leftwich, R. H.
 Lewis, J. K.
 Lieberman, I. M.
 Longini, J. B.
 Locks, M.
 Lorie, J. H.
Loyola Univ. Lib., Lewis Towers, 820 N. Michigan Ave.
 Lynsky, J. V.
 Lyon, L. S.
 MacLeish, J. E.
 Maier, F. H.
 Margolis, J.
 Marchak, J.
 Masiko, P., Jr.
 Massel, J. M.
 Massel, M. S.
 Matchett, G. J.
 McEvoy, R. H.
 McGuire, C. H.
 Metzler, L. A.
 Meyer, C.
 Mints, L. W.
 Mitchell, W. N.
 Mogilnitsky, T. A.
Morgan Park Junior Col., 2153 W. 111th St.
 Morse, H. C.
 Mueller, F. W., Jr.
 Murphy, J. C.
 Myhr, A. F.
 Nef, J. U.
 Nerlove, S. H.
 Netzer, D. M.
Newberry Lib., Walton Pl.
 Nicklaus, G. E.
 Nimer, D. A.
 Noble, J. H.
North Park Col. Lib., Foster and Kedzie Ave.
Northwestern Univ., Elbert H. Gary Lib. of Law, 357 E. Chicago Ave.
Northwestern Univ., Joseph Schaffner Lib. of Com., 339 E. Chicago Ave.
 Nutter, G. W.
 O'Hern, V. M.
 Osgood, R. C.
 Palyi, M.
 Patinkin, D.
 Patton, A. E.
 Pendleton, W.
 Perloff, H. S.
 Peterson, J. M.
 Pfeiffer, J. E.
 Picken, R. F.
 Polemis, Z. M.
 Pollock, D.
 Powell, M. A.
 Prather, R. M.
 Prichard, R. E.
Purcell, C. R., 141 W. Jackson Blvd., Rm. 1900
Radio Office, Univ. of Chicago
Radke, G. R., Illinois Bell Tel. Co., 208 W. Washington St., Rm. 1902
Railroad Retirement Bd., 844 N. Rush St.
 Raymond, F. I.
 Rees, A. E.
 Reifler, R. M.
 Reiner, J.
 Reiter, S.
Research Coun. for Econ. Sec., 111 W. Jackson Blvd., Rm. 901
 Richman, L. D.
 Richman, R. L.
 Roadcap, R. R.
 Roe, F.
 Rolfe, S. E.
 Rosenthal, L.
 Roth, L.
 Rubin, E. P.
 Rudney, G. G.
 Rudney, S. G.
 Sammons, W.
 Sanow, K. P.
 Schenker, D.

Scherer, J.
 Schmidt, C. K., Jr.
Schmidt, E. J., 79 W. Monroe St., Rm. 805
 Schultz, T. W.
 Schumacher, A. C.
 Schurr, S. H.
 Scott, A. C.
 Seidman, J.
 Seltzer, A. O.
 Seltzer, G. O.
 Senn, P. R.
 Shaw, A. W.
 Shaw, F. B.
 Simpson, W. B.
 Smith, S. G.
 Sobel, I.
 Solomon, E.
 Sonnenschein, H., Jr.
 Spencer, M. W.
 Sprowls, R. C.
 Stern, A. W.
 Stiles, L. A.
 Stone, R. W.
 Summer, W. E.
 Swanish, P. T.
 Sweeney, T. D.
 Swift, H. H.
 Taylor, H. C.
 Tenner, I.
 Thomson, P.
 Trias-Fargas, R.
 Tripp, C. D.
 Tugwell, R. G.
 Ule, G. M.
Univ. of Chicago, Dept. of Econ.
Univ. of Chicago Lib., Period. Dept., Harper M 22
Univ. of Illinois Lib., Undergrad. Div., Navy Pier, Grand Ave.
 Valentine, R. W.
 Van Brunt, F.
 Van de Woestyne, R. S.
 Varner, D. B.
 Vatter, W. J.
 Vivian, G. F.
 Waldeck, H.
 Wallis, W. A.
 Wang, S. C.
 Weaver, R. C.
 Weil, R. A.
 Weisskopf, W. A.
 Wells, C. C.
 Wentworth, E. N.
 Westhagen, M. H.
 Weston, J. F.
Wetle, Arthur J., 3521 N. Wilton Ave.
 Wexman, J. K.
 Williams, H. F.
 Wills, J. H.

Wilson, H.
 Wolfson, R. J.
Woodrow Wilson Junior Col. Lib., 6800 Stewart Ave.
Woodlawn Br. Lib., 6247-49 Kimbark Ave.
 Wright, C. W.
 Wright, H. G.
 Yntema, T. O.
 Zagorin, B.
 Zeman, M.
Ziff, W. B., 185 N. Wabash Ave.
 Zimring, O. D.

Cicero

Tonat, E.

Decatur

Decatur Pub. Lib.
 Eakin, F.
 Heaton, E.
James Millikin Univ., Orville B. Gorin Lib.
 Leese, C.
 Smith, G. R.
 Vail, R. P.

De Kalb

Northern Illinois State Teachers Col. Lib.

Des Plaines

Peters, J. S.

East Moline

Berry, R. E.

Elgin

Cleworth, M. M.
Gail Borden Pub. Lib., 50 N. Spring St.

Elmhurst

Chrisman, R. G.
Elmhurst Col. Lib.

Elsah

Principia Col. Lib.

Eureka

Eureka Col. Lib.

Evanston

Auble, A. G.
 Bailey, R. W.
 Bell, J. W.
 Bennett, H. F.
 Berger, A. O.
 Blaisdell, P.
 Bonde, R. L.
 Bradford, W. C.

Brown, W. F.
 Browne, W.
 Brozen, Y.
 Cady, G. J.
 Cherrington, H.
 Clark, F. E.
 Custis, V.
 Daugherty, C. R.
 Deibler, F. S.
 Dillinger, J. L.
 Dutton, H. P.
 Fetter, F. W.
 Forrest, C. D.
 Gane, F. H.
 Gilliatt, N.
 Guthmann, H. G.
 Hance, W. D.
 Hawkinson, J. R.
 Henry, F. F.
 Herrold, L. D.
 Hoadley, W. E.
 Hohman, E. P.
 Howell, P. L.
 Jaffé, W.
 Kende, G.
 Kerrigan, H. D.
 Leland, S. F.
 Lim, C. S.
 Morrison, P. L.
 Mowrer, E. R.
 Myers, J. H.
 Nahl, P. C.
Northwestern Univ. Lib.
 O'Brien, M. E.
 Oliver, H. M., Jr.
 Overton, R. C.
 Phillips, S. A.
 Poole, K. E.
 Robinson, R. I.
 Rogers, H. B.
 Simonds, R. H.
 Smith, R. E.
 Spencer, F. A.
 Spriegel, W. R.
 Strotz, R. H.
 Swanson, A. E.
 Tebbutt, A. R.
 Torgerson, H. W.
 Towle, J. W.
 Umbreit, M. H.
 Upton, R. M.
 Vanderblue, H. B.
 Wallace, R. F.
 Walton, I. T.
 Ward, J. F.
 Warning, D. S.
 Wichmann, A. A.
 Williamson, H. F.
 Winestone, R. L.

Galesburg

Brown, L. O.
Galesburg Pub. Lib.

Gibson, R.
Knox Col., Henry M. Seymour Lib., Berrien and Cedar Sts.
 Seay, E. W.
Univ. of Illinois, Undergrad. Div. Lib.
 Shideler, E. H.
 White, A. C.

Geneva
Zacco, A. M., 412 Richards St.

Glencoe
Wolfe, Lloyd R., 476 Park Ave

Glen Ellyn
 Chamberlin, V. B.
 Gartley, R.
 Gruner, R. W.

Godfrey
Monticello Col. Lib.

Greenville
Greenville Col. Lib.

Hinsdale
 Haensel, P.

Jacksonville
Illinois Col. Lib.
MacMurray Col. Lib., Illinois Woman's Col.
 Pasel, L.
 Raymaker, C. L.
 Samore, A. S.
 Taylor, J. T.
 Ture, N. B.

Joliet
 Coyne, W. J.
 Marie, Sister C.

Kankakee
Olivet Nazarene Col. Lib.

La Grange
Lyons Township High School and Junior Col. Lib.
 Morse, H. C.

Lake Forest
Barat Col. Lib.
Hale, G. E., Garage Apt., 333 N. Mayflower Rd.
 Johnson, E. A.
 Johnson, R. W.
 Keller, L. A.

Lake Forest Col. Lib.
 Nicholaus, H. A.
 Wilcox, C. A.

La Salle
 Caskey, W. F.
La Salle Peru-Township High School

Lebanon
McKendree Col.

Lisle
St. Procopius Col. Lib.

Macomb
 Seal, H. C.
Western Illinois State Teachers Col. Lib.
 Whitehead, F. M.

Maywood
 Leavitt, W. L.

Monmouth
 Cleland, J. S.
Monmouth Col. Lib.
 Petrie, R. P.

Mount Carroll
Frances Shimer Col., Campbell Memorial Lib.

Naperville
North Central Col. Lib.

Normal
Illinois State Normal, Univ. Lib.
 Glasener, F. R.

Northbrook
 Farwell, L. C.

Oak Park
 Bradshaw, F. H.
 Fritzemeier, L. H.
 Mass, E.
 Watkins, J. B.

Palos Heights
 Johnson, W. E.

Park Ridge
 Tongue, W. W.

Peoria
Caterpillar Tractor Co.
 Cohen, M.
Peoria Pub. Lib., 111 N. Monroe St.

Scheinman, D.
 Theobald, A. D.
 Tillotson, L. G.

Peru
St. Bede Col. Lib.

Quincy
Quincy Free Pub. Lib.
 Wiric, V. J.
 Woods, J.

Rantoul
 Hale, E. A.

River Forest
Rosary Col. Lib.
 Cusack, Sister M. T.

Rockford
 Flinn, B. W.
Rockford Col. Lib.
Rockford Pub. Lib., 215 N. Wyman St.
 Samuelson, C. A.
 Watson, D. E.

Rock Island
Augustana Col. and Theol. Seminary, Denkman Memorial Lib.
 Kellogg, L. S.
 Norstrom, O. L.
 Olson, A. L.

Skokie
 Leibacker, C. E.

Springfield
 Huston, J. W.
Illinois State Lib.
Lincoln Lib.
 Zimmerman, G. F. D.

Urbana
 Bartlett, R. W.
 Beckett, G.
 Bell, J. F.
 Blodgett, R. H.
 Borth, D., Jr.
 Bowen, H. R.
 Boyd, R. L.
 Brown, P. H.
 Case, H. C. M.
 Chalmers, W. E.
 Cobb, T. C.
 Converse, P. D.
 Conway, L. V.
 Daly, R. F.
 Dixon, H. M.
 Edelman, M. T.
 Faucett, P. M., Jr.

Flanders, D. P.
Galster, A. E.
Gray, H. M.
Hammond, S.
Harbeson, R. W.
Hu, S. T.
Huegy, H. W.
*Inst. of Labor and Ind. Rela.,
Univ. of Illinois, 429 Mum-
ford Hall*

Jordan, G. L.
Litman, S.
Locklin, D. P.
Long, D.
Mandeville, M. J.
Mayer, R. W.
McConnell, J. L.
McNatt, E. B.
McPherson, W. H.
Mehr, R. I.
Morey, L.
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Osborn, R. C.
Paden, D. W.
Pan, Y. P.
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Paul, A. B.
Qualls, L. L.
Reid, M. G.
Robb, W. C.
Scovill, H. T.
Spriggs, D. L.
Steiner, G. A.
Teweles, R. J.
Tibbils, R. W.
*Univ. of Illinois, Lib.,
Period. Dept.*
Van Arsdell, P. M.
Wales, H. G.
Whalen, O. L.
Working, E. J.

Waukegan

Waukegan Pub. Lib.

Western Springs

Erdmann, H. H.
Mitchell, G. W.

Westville

Howard, J. A.

Wheaton

Turney, M. C.
Wheaton Col. Lib.

Wilmette

Cohen, P. C.
Dauer, E. A.
Maynard, E. L.
Mills, J. A.

Winnetka

Dietrich, E. B.
Haworth, C. L.
Magrath, C. B.
Miller, J. W.
Peterson, F. B.
Voorhis, J.

Yorkville

Mighell, A. T.

INDIANA**Anderson**

Holdren, B. R.

Bloomington

Alm, I. W.
Andrews, W. H.
Anshen, M.
Batchelor, J. A.
Braden, S. E.
Case, F. E.
Christenson, C. L.
Cleveland, W. C.
Cohen, J.
Crawford, M. M.
Edwards, E. E.
Fuchs, R. F.
Haines, G. H.
Haring, H. A.
Heath, R. C.
Hedges, J. E.
Indiana Univ. Lib.
Mee, J. F.
Miller, T. A.
Mills, M. C.
Milroy, R. R.
Moffat, J. E.
Otteson, S. F.
Schweitzer, A.
Seelye, A. L.
Silverstein, N. L.
Van Scoyoc, L. S.
Weimer, A. M.
Wells, H. B.
Witney, F.
Zubrow, R. A.

Carmel

Efroymson, C. W.

Collegeville

Dirksen, C.

Crawfordsville

Ormes, F. R.
Roberts, W. A.
Sparks, F. H.
Van Sickle, J. V.
Wabash, Col. Lib.

Danville

Canterbury Col.

Elkhart

Elkhart Carnegie Pub. Lib.

Evansville

Pub. Lib., 22 S. E. Fifth St.
Rosenbaum, C. H.

Ft. Wayne

Conley, H.
*Ft. Wayne Pub. Lib., 301 W.
Wayne St.*
McDiarmid, F. J., *Lincoln
Nat. Life Ins. Co.*
SchAAF, C. H.

Franklin

Franklin Col. Lib.

Gary

*Roosevelt School, 25th and
Harrison Sts.*

Goshen

Kreider, C.

Greencastle

De Pauw Univ. Lib.
Haddock, E.
Jorne, H. L.
Wyckoff, V. J.

Hanover

Hanover Col. Lib.

Holy Cross

Joseph, Sister M. E.

Indianapolis

Bruno, V. J.
*Burkhart, John, 215 Peoples
Bank Bldg.*
Butler Col. Lib., Butler Univ.
Camp, C. B.
Carey, R. D.
Dickens, A. E.
Dingwall, J.
Eli Lilly and Co.
*Hopper, C. H., 310 N. Illi-
nois St.*
Indiana Central Col. Lib.
*Indiana State Lib., 140 N.
Senate Ave.*
*Indianapolis Pub. Lib., Reud-
ing Rm. Dept., St. Clair
Sq.*
Ross, M. O.
Snyder, I. V.
Sturgeon, R. R.

Swanson, E. W.
Underhill, H. F.
Van Metre, R. M.

Lafayette

Cabe, J. C.
Erselcuk, M.
Field, R. W.
Owen, W. V.
Purdue Univ. Lib.
Simpson, J. W.
Thomas, R. G.
Wiley, J. W.

Mishawaka

Gates, D. E.

New Castle

New Castle Pub. Lib.

North Manchester

Garver, E. S.
Manchester Col. Lib.

Notre Dame

Bender, W. C.
Downey, W. H.
Kent, R. P.
Norton, J. E.
Stoner, F. M.
Univ. of Notre Dame

Peru

Edwards, R. E.

Richmond

Hastings, P. G.
Earlman Col. Lib.
Stinneford, C. L.

South Bend

Cascino, A.
Eells, L. H.
Flatley, L. T.
Hermens, F. A.
Sheehan, J. H.
Smith, E. A.
South Bend Pub. Lib., S.
Main St. at Wayne
Wallace, G. S., Jr.

Terre Haute

Bohan, R. T.
Emeline Fairbanks Memorial
Lib.
Indiana State Teachers Col.
Lib.
Mitchell, W. F.

Valparaiso

Gochring, E. E.

Valparaiso Univ. Lib.

West Baden Springs

West Baden Col.

West Lafayette

Estey, J. A.
Fitzsimmons, C.
Helmreich, T. C.
Hoag, H. L.
Kleinman, D. T.
Mayhill, R.
Sharkey, W. K.
Sheppard, E. J.

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*Ames

Amer. Lib. Asso., c/o Iowa
State Col. Lib.
Arthur, I. W.
Boulding, K. E.
Davey, H. W.
Douglas, E.
Giffin, R. R.
Haver, C. B.
Hildreth, C. G.
Hoyt, E. E.
Hurwicz, L.
Iowa State Col. Lib.
Kaldor, D. R.
Lemke, B. C.
Murray, W. G.
Nelson, P. E., Jr.
Nordin, J. A.
Regier, D. W.
Robotka, F.
Salera, V.
Shepherd, G. S.
Thair, P. J.
Thompson, S. H.
Thompson, W. H.
Tintner, G.
Willis, B. S.
Wright, W.

Cedar Falls

Hunter, M. B.
Iowa State Teachers Col.
Lib.
Johnson, V. W.
Strain, R. E.

Cedar Rapids

Cassidy, J. K.
Coe Col. Lib.
Henry, J. M.
Macy, C. W.
Waples, E. O.

Davenport

Becker, W. G.

Bowie, L. W.
Collins, W. J.

Decorah

Luther Col. Lib.

Des Moines

Alley, W. E.
Bohlman, H. W.
Brownson, H. G.
Cosson, C.
Drake Univ. Lib.
Marks, B. J.
Pub. Lib.
Schuhart, Ralph W., 4069
Kingman Blvd.
State Tax Com., Property
Tax Div., Des Moines
Bldg.
State Traveling Lib., Histori-
cal Bldg.
Warters, D. N.

Dubuque

Carnegie Pub. Lib.
Klott, J. J.
Loras Col Lib., 14th and Alta
Vista Sts.
Univ. of Dubuque, Col. Lib.

Fairfield

Parsons Col. Lib.

Fayette

Upper Iowa Univ. Lib.

Grinnell

Charlton, J. W.
Grinnell Col. Lib.
Stauss, J. H.
Strong, E. D.

Hamburg

Colon, Howard, Jr.

Indianola

Markle, H. J.
Morgan, C. A.
Simpson Col. Lib.

Iowa City

Davies, G. R.
Hickman, C. A.
Johnson, R. H.
McRaith, J. F.
Murphy, M. E.
Olson, P. R.
Phillips, C. A.
Smith, W. R.
State Univ. of Iowa Lib.,
Lib. Annex

Lamoni
Graceland Col. Lib.

Le Mars
Fireoved, E. L.

Mason City
Mason City Pub. Lib.

Mount Pleasant
Ellis, R. K.
Wilkey, H. L.

Mount Vernon
Cornell Col. Lib.
Ennis, J. H.
Rich, C. L.

Orange City
Northwestern Junior Col. Lib.

Oskaloosa
William Penn Col. Lib.

Pella
Central Col. Lib.

Ralston
Spaulding, M.

Sioux City
Elise, Sister M.

Story City
Malone, C. C.

Waverly
Muench, C.
Wartburg Col. Lib.

KANSAS

Atchison
Baska, L.
Schroll, Sister M. A.

Baldwin
Guest, H. W.

Cherryvale
Dudgeon, E. J.

Dodge City
Rice, G. S., 1012 1st Ave.

Emporia
Kansas State Teachers Col. Lib.

Fort Leavenworth
C and SC Lib.

Fort Scott
Pollock, K. W.

Hays
Fort Hays Kansas State Col. Lib.

Kansas City
James, K. V.
Pub. Lib., Huron Sq.

Lawrence
Ashmen, R.
Chernick, J.
Dade, E. B.
Farmer, I. M.
Faust, L. M.
Gagliardo, D.
Howey, R. S.
Ise, J.
Morgan, J. D.
Nelson, E. G.
Pritchard, L. J.
Schoggen, J. G.
Scott, I. O., Jr.
Stockton, F. T.
Univ. of Kansas, Univ. Ext. Div.
Univ. of Kansas Lib., Period. Dept.
Waters, L. L.
Weltmer, W. K.

Lindsborg
Bethany Col. Lib.

Manhattan
Bagley, E. S.
De Cou, D. F.
Hodges, J. A.
Kansas State Col. Lib.
Macario, S. P.
Manuel, M. L.
Tjerandsen, C.

McPherson
Central Col. Lib.
Olson, O. A.

North Newton
Spaulding, J. L.

Ottawa
Lee, J. F.
Ottawa Univ. Lib.

Pittsburg
Kansas State Teachers Col., Porter Lib.

Salina
Finn, Sister I. M.
Schoenbeck, H.
Viau, Sister J. M.

Sterling
Sterling Col. Lib.

Topeka
Kansas State Lib., State House
Marcoux, D. C.
Topeka Free Pub. Lib.
Monroe, D.
Washburn Municipal Univ. Lib.

Webster City
Woods, M. H.

Wichita
Friends Univ. Lib.
Neff, F. A.
Ricketts, F. M.
Washburn, H. H.
Wichita City Lib.

Winfield
Southwestern Col. Lib.

KENTUCKY

Ashland
Ashland Junior Col.

Barbourville
Union Col. Lib.

Berea
Berea Col. Lib.

Bowling Green
Western Kentucky State Teachers Col. Lib.

Campbellsville
Campbellsville Col. Lib.

Danville
Arnolds-Patron, P.
Centre Col. Lib.
Hodgkins, A. R.

Lexington
Best, H.
Carpenter, C. C.

Carter, L. H.
De Voe, M.
Hall, W. S.
Jennings, W. W.
Martin, J. W.
Masten, J. T.
McVey, F. L.
Nicholls, W. D.
Pickett, R. R.
Price, H. B.
Sullivan, R.
Transylvania Univ. Lib.
Univ. of Kentucky Lib.
Wiest, E.

London

Sue Bennett Col. Lib.

Louisville

Craf, J. R.
Louisville Free Pub. Lib.,
301-333 Library Pl.
Martin, B. F.
Robertson, H. M.
Stone, E. A.
Univ. of Louisville Lib.,
Belknap Campus
Wagner, M.
Williams, C. W.

Morehead

Morehead State Teachers
Col., Johnson Camden Lib.

Murray

Murray State Teachers Col.
Lib.

Newport

Newport Pub. Lib.

Richmond

Eastern Kentucky State
Teachers Col. Lib.,
Lancaster Ave.
Moore, W. J.

Wilmore

Harrison, R. W.

Winchester

Kentucky Wesleyan Col. Lib.

LOUISIANA**Baton Rouge**

Gile, B. M.
King, H. J.
Louisiana State Univ. Lib.,
Period. Dept., Univ. Sta.
McCracken, H. L.

Owen, J. P.
Preston, S. W.
Scroggs, W. O.
Southern Univ. Lib., South-
ern Br.
Warren, S. E.

Grand Coteau

Col. and Acad. of Sacred
Heart

Hammond

Southeastern Louisiana Col.
Lib.

Lafayette

Phillips, W. J., Jr.
Southwestern Louisiana Inst.
Lib.

Lake Charles

Wicker, E. R.

Natchitoches

Northwestern State Col. Lib.

New Orleans

Anderson, L. M.
Anderson, P. H.
Blomberg, C. L.
Bonnett, C. E.
Buchan, L. J.
Carnes, H. B.
Connor, J.
Dillard Univ. Lib.
Dinwiddie, G. S.
Duerr, W. A.
Elsasser, R. W.
Fair, M. L.
Halley, D. M.
Heck, H. J.
Heiby, E. P.
Howard Tilton Memorial
Lib., Audubon Pl. and
Freret
James, L. M.
Jones, A. H.
Kennedy, F. J.
Loyola Univ. Lib., 6363 St.
Charles Ave.
Masterson, J. G.
Mitchell, H. A.
Mitchell, J. M.
New Orleans Pub. Lib.
Phelps, E.
U. S. Dept. of Agric. Lib.,
Louisiana Br., Mid City
Sta., Box 7295
Van Kirk, J. C.
Warren, G. E.
Yenni, J. E.

Ruston

Louisiana Poly. Inst. Lib.
Smolinski, H. J.

Shreveport

Caine, W. E.
Centenary Col. Lib.
Shuey, A. F., Jr.

University

Trant, J. B.

MAINE**Bangor**

Bangor Pub. Lib.

Brunswick

Abrahamson, A.
Bowdoin Col. Lib.
Brown, P. M.
Catlin, W. B.
Cushing, M. B.
Elliott, R. D.

Fryeburg

Long, J. J.

Kittery Point

Alvord, G. G.

Lewiston

Bartlett, P. B.
Bates Col. Lib.
Carroll, J. M.
Freedman, A. M.

Orono

Gronouski, J. A., Jr.
Kirshen, H. B.
Univ. of Maine Lib.

Portland

Goodbar, J. E.
Jordan and Jordan, Fidelity
Bldg.

Springvale

Nasson Col. Lib.

Waterville

Breckenridge, W. N.
Colby Col. Lib.
Morrow, C. H.
Pullen, R. W.

MARYLAND**Accokeek**

North, M. H.

Annapolis

Handy, W. K., Jr.
Tredland, J. R.
U. S. Naval Academy Lib.

Baldwin

Reynolds, A. J.

Baltimore

Alt, R. M.
Bobbitt, P. B.
Bryson, P. L.
Bryson, W. O., Jr.
Col. of Notre Dame of Maryland, Fourier Lib., 4701 N. Charles St.
Couper, II. E.
Div. Lib. Ext., 400 Cathedral St.
Domar, E. D.
Duncan, A. J.
Eisenberg, G. G.
Enoch Pratt Free Lib.
Evans, G. H., Jr.
Goucher Col. Lib.
Grunwald, J.
Hartz, J. P.
Ives, Charles P., 4211 Wickford Rd.
Jackson, F. A.
Kemper, A.
Key, V. O.
Levy, J.
Long, C. D.
Machlup, F.
Magnus, E. F. R.
Morgan State Col. Lib.
Morrissey, E.
Osovitz, E.
Pancoast, E.
Paschal, F.
Pollis, A.
Reuss, F. G.
Sarosi, O.
Smith, C. W.
Towsend, J. J.
Univ. of Baltimore Lib.
Waters, W. R.
Wentworth, E. C.
Weyforth, W. O.
Wiesenfeld, H. M.
Wolman, A.

Bethesda

Achinstein, A.
Atterberry, P. R.
Bortz, N. M.
Cale, E. G.
Cavin, J. P.
Cecchini, L. P.
Cohen, W. J.
Garlock, F. L.
Hayes, S. P., Jr.

Hengren, R. E.
Kamarck, A. M.
Potter, A. A.
Reeve, J. E.
Riley, R. H.
Stimson, R. H.
Wiers, P.

Bladensburg

Grauman, Jacob, 4107 51st St.

Brooklandville

MacGarvey, C. J.

Cambridge

Slacum, A. B.

Chestertown

Washington Col., George Avery Bunting Lib.

Cheverly

Blair, J. M.
Woodworth, L. N.

Chevy Chase

Bernhardt, J.
Bernstein, E. M.
Bitting, H. W.
Crawford, A. W.
Donner, O.
Ferebee, E. E.
Gardner, W. R.
Garfield, F. R.
Herrmann, O. W.
Hilken, H. G.
Hosking, F. J.
Hunsberger, W. S.
Jackson, C. D.
Liss, S.
Mann, F. K.
Marshall, L. C.
Meyers, A. L.
Myers, H. B.
Norman, T.
Rafler, D. D.
Riggleman, J. R.
Robinson, M. E.
Rowe, H. B.
Schmidt, O. A.
Seidler, G., Jr.
Smith, Thomas Lee, 508 Warwick Pl.

Thatcher, L. W.

Thomas, W.

Weber, G. M.

Weiss, H.

Weiss, G. S.

Williams, K. B.

Wynne, W. H.

Young, J. P.

Clinton

Whipple, C. E.

College Park

Calhoun, C. E.
Clemens, E. W.
Dillard, D.
Dillard, L. G.
Gruchy, A. G.
Gwin, J. M.
Hagen, E. E.
Kriesel, H. C.
Mounce, E. W.
Ordoobadi, A.
Pyle, J. F.
Reid, J. H.
Univ. of Maryland Lib.
Watson, J. D.

Ellicott City

Kautz, K. I.

Emmitsburg

Phillips, Hugh J., Mount St.
Mary's Col. Lib.
St. Joseph's Col. Lib.

Frederick

Reddick, O. I.
Severtson, D.

Garrett Park

Brown, G. T.

Glen Burnie

Parker, J. S.

Greenbelt

Getzin, E. E.
La Macchia, F. R.

Hyattsville

Barlow, B. L.
Barlow, W. D.
Colberg, M. R.
Dockeray, J.
Houghton, H. F.
Johnson, V. Webster, 4317 Clagett Rd.
Kahn, R. A.
McHugh, T. F.
Rollefson, A. M.
Shirley, R. V.

Kensington

Mayo, R. P.
Schwenger, R. B.

Landover Hills

Lynn, F. L.

Laurel
Schiferl, M.

Mt. Rainier
Brill, D. H.
Carsel, W.
Cooper, H. S.
Elchibegoff, I. M.
Liebling, H. I.
Meyrowitz, A.
Miller, F. M.
Prewitt, R. A.
Shiskin, J.
Small, A. H.
Small, S. S.
Weiner, L.

North Chevy Chase
Fishburn, J. T.

Pikesville
Cahn, F. B.

Salisbury
State Teachers Col. Lib.

Silver Spring
Abel, K. N. K.
Auxier, C. C.
Bacon, M. A.
Banner, P. H.
Barbash, J.
Dozier, H. D.
Clorety, J. A., Jr.
Ficker, H.
Hannay, E. B.
Hasse, A. R.
Hoffenberg, B. S.
Hoffenberg, M.
Holzman, M.
Kelso, H.
Lehman, R. S.
Livingston, S. M.
Merlin, S. D.
Roller, G. H.
Schaffner, P. P.
Spiegel, H. R.
Stapp, P.
Turner, R. C.
Williams, C.

Sumner
Roterus, V.

Takoma Park
Callander, C. L.
Conrad, W. E. F.
Jones, W. K.
Stein, H.
White, M. I.
Young, J. P.

Trappe
Leonard, N. H., Jr.

Westminster
Western Maryland Col. Lib.

MASSACHUSETTS

Amherst
Amherst Col. Lib.
Chandler, L. V.
Cole, C. W.
Coombs, P. H.
Gamble, P. L.
Hardy, H. E.
Kravis, I. B.
Lyon, H.
Morris, B. R.
Rozman, D.
Taylor, G. R.
Univ. of Massachusetts,
Goodell Lib.
Warne, C. E.

Arlington
Finger, E.
Reagan, B. B.
Reagan, S. C.

Auburndale
Packard, R. M.

Babson Park
Babson Inst. Lib.
Ford, C. W.
Mors, W. P.
Racine, J. L.

Bedford
Vaughn, J. A.

Belmont
Huse, C. P.
Lintner, J.
Redlich, F. L.

Boston
Abbott, C. C.
Albrecht, V. N.
Babson, P. T.
Baker, G. P.
Bellemore, D. H.
Blodgett, George R., 1 Federal St.
Bloomfield, D.
Borden, N. H.
Boston Athenaeum, 10½ Beacon St.
Boston Fiduciary and Res. Associates, Mathematic Lab., 50 Congress St.

Boston Pub. Lib., Copley Sq.
Boston, Pub. Lib., Kirstein Bus. Lib., 20 City Hall Ave., 1st Floor
Boston Univ., Bus. Admin. Lib., 685 Commonwealth Ave.
Boston Univ. Lib., Col. of Lib. Arts, 688 Boylston St.
Brown, T. H.
Butters, J. K.
Carey, J.
Caulfield, H. P., Jr.
Chadbourne, E.
Cobb, W. C.
Coit, C. G.
Copeland, M. T.
Dyer, L. A.
Field, M.
First Nat. Bank of Boston Lib., P.O. Box 2016
Folts, F. E.
Glover, J. D.
Gordon, L.
Gras, N. S. B.
Hamilton, R. S.
Hanson, A. W.
Healy, J. J.
D. C. Heath and Co., 285 Columbus Ave.
Hill, R. J.
Hunt, B. C.
Hunt, P.
Hutchinson, K. D.
Kelley, J. W.
Larson, H. M.
Learned, E. P.
Locke, H. D.
MacDonald, W. D.
Masson, R. L.
Massachusetts State Lib., State House
McDonough, C. A.
McPherson, J. R.
Meriam, R. S.
Merrill, E.
Middendorf, H. S.
Myers, A. H.
Neal, A. C.
Northeastern Univ. Lib., 360 Huntington Ave.
Perkins, J. S.
Ruggles, C. O.
Sanders, T. H.
Schlagenhauf, M. J.
Selekman, B. M.
Simmons Col. Lib., 300 The Fenway
Smith, D. T.
Smith, G. A., Jr.
Snider, J. L.
Stand Corp., c/o H. A. Chapman, 38 Newbury St.
Stark, W. R.

Strange, R. H.
Sugarman, Joseph, 85 Devon-
shire St.
 Sutcliffe, W. G.
 Sweet, H. N.
Teachers Col., Huntington
and Longwood Aves.
 Thornton, R. H.
 Tosdal, H. R.
 Ullman, A.
Vet. Admin. Br. Office, Dep-
uty Admin., 55 Tremont St.
 Walker, G. R.
 Welden, W. C.
 Willett, E. R.
 Wilson, E. B.

Bradford

Bradford Junior Col. Lib.

Brewster

Cist, F.

Bridgewater

State Teachers Col. Lib.

Brighton

Cramer, L. S.

Brockton

Brockton Pub. Lib., Main St.

Brookline

Brown, D. V.
 Clemence, R. V.
 Eaves, L.
 Levitan, L. B.
 Lion, D.
 Orden, S. R.

Cambridge

Adelman, M. A.
 Alexander, S. S.
 Alpert, M.
Antonellis, Lawrence G., Jr.,
39 Irving St.
 Apel, H.
 Barnett, H. J.
 Bishop, R. L.
 Black, J. D.
 Blackman, J. L., Jr.
 Bourne, W. N.
 Brown, E. C.
 Burbank, H. H.
 Campbell, W. G.
 Capron, W. M.
 Chamberlin, E. H.
 Cochran, J. A.
 Cole, A. H.
 Conant, L.
 Dishaw, I. H.

Donham, W. B.
 Dunlop, J. T.
 Freeman, R. E.
 Frickey, E.
 Galenson, W.
 Garbarino, J. W.
 Gerrish, C. R.
 Gutchess, F. J.
 Haberler, G.
 Haines, C. H.
 Hansen, A. H.
 Harris, S. E.
Harvard Col. Lib., Serials
Div.
Harvard Univ., Com. on Res.
in Soc. Sci., 38-40 Holyoke
House
Harvard Univ., Depts. of
Landscape Arch. and Reg.
Plan. Lib.
Harvard Univ., Law School
Lib.
Harvard Univ., Littauer
Center of Pub. Admin. Lib.
Hewson, H. C., 84 Garden
St.
 Hines, H. H.
 Hunter, J. M.
 Hyson, C. D.
 Isard, W.
 Jackson, D. C.
 Kahn, M. L.
 Kaysen, C.
 Kempster, J. H.
 Kindleberger, C. P.
Klein, Burton H., 992 Me-
memorial Dr., Apt. 104
 Leontief, W. W.
 MacLaurin, W. R.
 MacRae, D., Jr.
 Maddox, J. G.
 Markham, J. W.
 Mason, E. S.
Massachusetts Inst. of Tech.,
Massachusetts Ave.
 Minsky, H. P.
 Modern, E.
 Monroe, A. E.
 Morin, A. J.
 Myers, C. A.
 Nixon, J. H.
 Passer, H. C.
 Robock, S. H.
 Rodwin, L.
 Rogers, B. A.
 Sadove, A. R.
 Samuelson, P. A.
 Schelling, T. C.
 Slichter, S. H.
 Sprague, O. M. W.
 Taylor, O. H.
 Thresher, B. A.
 Tobin, J.
 Tucker, D. S.

Von Mering, O. O.
 Willfort, M.
 Williams, J. H.
 Willis, P. B.
 Wilson, E. W.

Charlestown

Calder, P. R.

Chestnut Hill

Boston Col. Lib., Bus. School
Boston Col. Lib., Univ.
Heights
 Foley, E. B.
 McEwen, R. J.
 Segal, R. M.

Concord

Cherington, C. R.
 Kaufmann, J. H.

East Dedham

Brannon, G. M.

Everett

F. E. Parlin Memorial Lib.

Fall River

Fall River Pub. Lib.

Fitchburg

State Teachers Col. Lib.

Fort Devens

Brown, G. L., Univ. of Mas-
sachusetts, Warehouse 25
 Houston, N. T.
 McPherson, W. W.
 Shearer, W. W.
Univ. of Massachusetts Lib.

Framingham

Keir, J. S.

Gardner

Muhlbach, W. F.

Great Barrington

Carter, J. J.
 Mennis, E. A.

Haverhill

Haverhill Pub. Lib.

Lawrence

Bernard, Omer, 8 Lea St.
 Doucette, R. J.

Leominster
Trafton, G. H.

Lincoln
Bliss, C. A.

Longmeadow
Clark, R. N.
McKinley, S. J.

Medford
Bridgman, H. A.
Crafts, P. C., Jr.
Halm, G.
Smith, N. R.

Needham
Morss, N.
Welfing, W. W.

Newton
Balling, F. K.
Motland, M. A.
Newton Free Lib.
Ullian, F. S.

Newton Centre
Lamb, R. K.
McKay, R.
Rosenfelt, M.

Newton Highlands
Sweetser, A. G.

Newtonville
Beisel, A. R., Jr.
Kobbrock, J. P.

North Amherst
Haller, W., Jr.

Northampton
Douglas, D. W.
Faulkner, H. U.
Forbes Lib.
Lowenthal, E.
Lumpkin, K. D.
Orton, W. A.
Ross, S. C.
Smith Col. Lib.
Taber, E. F., Jr.
Willett, E. F.

North Andover
Burns, Edward, J., 111
Peters St.

North Orange
Nieuwejaar, O.

Norton
Jennings, H. C.
Metzger, J. P.
Wheaton Col. Lib.

Quincy
White, D. J.

Revere
Lauder, John B., 38 Barrett St.

Rochdale
Wolf, R. B.

Roxbury
Swift, P. E.

Salem
State Teachers Col. Lib., Loring Ave
Usher, A. P.

Scituate Center
Doody, F. S.

South Hadley
Comstock, A.
Gillim, M. H.
Hawkins, E. D.
Hewes, A.
Mount Holyoke Col. Lib.

South Lancaster
Atlantic Union Col. Lib.
Stokes, C. J.

Springfield
Fox, M. J., Jr.
Lieson, W. A.
Ronk, S. E.
Springfield Col. Lib., 285 Hickory St.
Wellman, H. C.

Starkville
Kelly, T. A.

Swift River
Shultz, B. E.

Tufts College
Manly, L. F.
Tufts, Col. Lib.

Waban
Estabrook, V. T.

Wakefield
Belmore, C. W.

Comins, H. N.
Fels, Rendigs T., 118 Vernon St.

Waltham
Luce, R.

Ware
Dumas, Hermann A., 75 Pleasant St.

Wayland
Hubbard, J. C.

Wellesley
Freeman, E. S.
Gilson, M. B.
Jenks, L. H.
Killough, H. B.
Killough, L. W.
Smith, E. L.
Smith, L.
Tolman, E. B.
Wellesley Col. Lib.

Wellesley Hills
Babson, R. W.
Elder, R. F.
Hastings, M. H.
Peterson, N. E.
Quirin, E. L.
Williams, J. B.

West Newton
Crosby, G. R.
Loomis, R. H.
Weston
Beatty, Sister M. A.
Weston Col. Lib.

West Somerville
Norwood, B.

Westwood
Burt, E. J., Jr.

Weymouth
Ivory, A.

Williamstown
Despres, E.
Fox, B.
Gass, D. L.
Gates, W. B.
Gordon, K.
Laursen, S.
McLaren, W. W.
Morse, C.
Rashish, M.
Sirken, I. A.
Smith, W. B.
Williams Col. Lib.

Winchester

Buros, A.
Francis, B. H.
Jolley, E. O., Jr.

Wollaston

Rankin, A. F.

Worcester

Assumption Col. Lib.
Brandenburg, S. J.
Clark Univ. Lib.
Crompton, G.
Dewey, F. H., Jr.
Duffy, J. L.
Erickson, R. A.
Holy Cross Col. Lib.
Lucas, A. F.
Lukens, S. J.
Maxwell, J. A.
Peragallo, E.
Sharfman, S.
*State Teachers Col., 486
Chandler St.*
*Worcester Free Pub. Lib.,
Main Lib., 12 Elm St.*
Worcester Poly. Inst.

MICHIGAN**Albion**

Albion, Col. Lib
Terpenning, W. A.

Alma

Unstad, L. L.

Ann Arbor

Ackley, G.
Adams, J. P.
Anderson, G. R.
Austrian, J.
Culbertson, J. M.
Davidson, S.
Davisson, C. N.
Dickinson, Z. C.
Dieckman, W. R.
Dowd, L. P.
Edwards, W. O.
Eiteman, W. J.
Elliott, M.
Ford, R. S.
Frisinger, H. H.
Griffin, C. E.
Haber, W.
Hannington, I.
Jamison, C. L.
Katona, G.
Levinson, H. M.
Musgrave, R. A.
Palmer, W. B.
Paster, I.
Paton, W. A.

Peterson, G. S.
Phelan, Jack, 1030 Oakland
Phelps, D. M.
*Pub. Lib., E. Huron and N.
Thayer St.*

Remer, C. F.
Riegel, J. W.
Rodkey, R. G.
Schlatter, W. J.
Sharfman, I. L.
Springborn, F. L.
Staebler, N.
Stevens, R. W.
Stevenson, R. A.
Suits, D. B.
*Univ. of Michigan, General
Lib.*
Watkins, L. L.
Wirick, G. C., Jr.

Belding

*Marin, Kenneth J., 304 Hall
St.*

Berrien Springs

MacMorland, R. B.

Big Rapids

Andersson, H. F.

Brighton

Bernhardt, D. A.

Dearborn

Forward, K. A.
Hitchings, G. P.
Lottman, V. G.
Miller, A. R.
Wallis, H. B.

Detroit

Adamson, R. K.
Albery, M.
Anderson, K.
Badger, R. E.
Baker, O. P.
Bates, B. A.
Biggs, R. M.
Borden, S.
Caverly, H. L.
Court, A. T.
Demmer, R. A.
Dent, J. K.
*Detroit Pub. Lib., Woodward
and Kirby Aves.*
*Detroit Pub. Lib., Downtown
Lib., 121 Gratiot Ave.*
Du Brul, S. M.
Einzig, R.
Ekland, L. M.
Fitzgerald, L. E.
Frane, L.
Gordman, H. S.
Henry, R. J.

Howard, Sister J. M.
Kirk, L. K.
Krandall, N.
Kroopnick, E.
Landuyt, B. F.
Layer, R. G.
Levin, S. M.
Long, T. G.
Marcks, O. D.
Mendelson, M., 4100 Joy Rd.
Pearson, O. P.
Perine, E. R.
Perine, F. A.
Pinches, H. E.
Pitts, A., Jr.
Richards, J. R.
Rood, J. R.
Schumer, W.
Seltzer, L. H.
Shapiro, E.
Smith, H. M.
Stearn, S. C.
Stockner, N. R.
*Student's Lib., 651 E. Jeffer-
son Ave.*
Trend, H. G.
Troxel, C. E.
*Univ. of Detroit Lib., Mc-
Nichols Rd. at Livernois*
Usher, T. H.
Wattenberg, W. W.
*Wayne Univ. Lib., 4841 Cass
Ave.*

East Lansing

Adams, W.
Brainard, H. G.
Carlin, E. A.
Carlip, A. B.
Cline, D. C.
Dunford, C. S.
Franklin, R. J.
Hendrickson, H. G.
Killingsworth, C. C.
Knight, W. R.
McGregor, G. F.
Michigan State Col. Lib.
O'Beirne, B. E.
Segal, M. J.
Taylor, M. C.
Traywick, L. E.
Wynyarden, H. J.

Ferndale

Rath, J. J.
Weinberg, N.

Flint

Baker, H. B.
Eckles, E. L.
*Flint Junior Col. Lib., Oak
Grove*

Flint Pub. Lib., E. Kearsley St.
Henry, Donald, 1228 Ave. C
 Kilmer, C. M.
 Stevens, G. D.

Grand Rapids

Grand Rapids Pub. Lib., Ref. Dept., Ryerson Lib. Bldg.
 Haas, F. J.
 MacDonald, R. G.
 Stang, Sister M. B.

Gratiot Township

Chester, H. L.

Greenville

Magoon, D. W.

Grosse Pointe

Barnett, R. A.
 Holder, F. C.
 Phillips, E. J., Jr.
 Stricker, A. K., Jr.

Hart

Hadiaris, N.

Highland Park

High School Lib., Glendale Ave.
McGregor Pub. Lib.

Hillsdale

Sherman, W. R.

Holland

Hope Col., Grave Lib.
 Horner, R. R.
 Yntema, D. B.

Houghton

Michigan Col. of Mining and Tech. Lib.

Ironwood

Erickson, A. E.
Junior Col. Lib.

Jackson

Jackson Pub. Lib., Main Lib., 244 W. Michigan Ave.
Junior Col. Lib., Wildwood Ave.

Kalamazoo

Bigelow, H. F.
Kalamazoo Col., Mandelle Memorial Lib.
 Moore, F. W.
 Wendzel, J. T.

Western Michigan Col. of Education Lib.

Lansing

Eliot, H. M.
Lansing Pub. Lib., 210 W. Shiawasee St.
 Learned, E. J.
 McKinstry, W. J.
Michigan State Lib.

Marquette

Northern Michigan Col. of Educa. Lib.

Mt. Pleasant

Central Michigan Col. of Educa. Lib.
 Ryder, W. S.
 Smith, P. M.

Muskgeon

Hackley Pub. Lib., Period. Rm., Webster Ave. at Third St.

Nazareth

Nazareth Col.

North Muskegon

Thurston, H. M.

Olivet

Olivet, Col. Lib.
 Smith, T. P.

Orchard Lake

St. Mary's Col. Lib.

Owosso

Owosso Pub. Lib.

Royal Oak

Royal Oak Pub. Lib.

Saginaw

Adams, W. W.
Hoyt Pub. Lib.

Wayne

Fillie, F. A.

Willow Run

Schoen, S. H.

Ypsilanti

Cook, L. D.
Michigan State Normal Col. Lib.

MINNESOTA**Bemidji**

Nelson, W.
State Teachers Col. Lib.

Collegeville

Farley, J. A.
St. John's Univ. Lib.
 Schirber, M. E.

Crosby

Independent School Dist. No. 51, Junior Col.

Duluth

Col. of St. Scholastica Lib.
Duluth Junior Col. Lib., 5th Ave. E. and 7th St.
Duluth Pub. Lib., 1st Ave. W. and 2nd St.
 Matteson, J. S.
 Sielaff, R. O.
Univ. of Minnesota, Duluth Br. Lib.

Excelsior

Burns, M. R.
Hibbing Junior Col. Lib.

Le Sueur

Jones, F. C.

Mankato

Mankato Free Pub. Lib.
 McCracken, D.
State Teachers Col. Lib.

Minneapolis

Anderson, W.
Augsburg Col. and Theol. Sem. Lib.
 Belcher, D. W.
 Berretoni, J. N.
 Billington, W. T.
 Blakey, R. G.
 Boddy, F. M.
 Borak, A.
Bredvold, Miles J., Olmsted and Foley Adv. Agency, 1200 2nd Ave.
 Brill, J. E.
 Brown, E. C.
 Burgess, E. W.
 Canoyer, H. G.
 Carlson, R. E.
 Childs, F. E.
 Cooke, B. M.
 Detlefsen, G. R.
 Edmunds, S. W.
 Egekvist, W. S.
Fed. Res. Bank of Minneapolis Lib., 9th Dist.

Filipetti, G.
 Garver, F. B.
 Giebink, G. G.
 Graves, R. A.
 Heaton, H.
*Ind. Rela. Center, School of
 Bus. Admin., 109 Vincent
 Hall, Univ. of Minnesota*
 Jewett, R. B.
 Kleven, B. J.
 Kozelka, R. L.
 Landreth, E. H.
 Lewis, E. H.
 Litterer, O. F.
 Lunden, L. R.
 Luther, R. F.
 Marget, A. W.
 McCartney, K. H.
 McCracken, P. W.
*Minneapolis, Pub. Lib.,
 Munic. Ref. and Bus. Br.,
 217 S. 6th St.*
*Minneapolis Pub. Lib., 10th
 and Hennepin Ave.*
*Minnesota and Ontario Paper
 Co. Lib., 500 Baker Arcade
 Bldg.*
 Mudgett, B. D.
 Myers, W. R.
 Nelson, C. L.
 Nielsen, O.
 Nightingale, E. A.
 Norby, J. C.
 Nunn, W. L.
 Ostlund, H. J.
 Papendreau, A. G.
 Platt, S. K.
 Sacasa, A.
 Shybekay, D.
 Stehman, J. W.
 Stieber, J.
 Stockwell, R. E.
 Szold, S. L.
Univ. of Minnesota Lib.
 Upgren, A. R.
 Vaile, R. S.
*Vet. Admin. Hospital Lib.,
 54th St. and 48th Ave. S.*
 Weiss, J. A.
 Yeager, F. S.
 Yoder, D.

Moorhead

Concordia Col. Lib.
 Hjelmstad, J. H.
State Teachers Col. Lib.

Northfield

Bianchi, R.
Carleton Col. Lib.
 Gillam, C. W.
 Klaragard, S.
St. Olaf Col. Lib.

Shefveland, O. E.
 Sogge, T. M.

Olivia

Windhorst, R. B.

Rochester

*Rochester Junior Col. Lib.,
 Coffman Bldg.*

St. Cloud

State Teachers Col. Lib.

St. Joseph

Col. of St. Benedict Lib.

St. Paul

*Allstrom, H. W., Minn. Mu-
 tual Life Ins. Co.*
 Bavolak, E.
Col. of St. Catherine Lib.
 Cavert, W. L.
 Dowell, A. A.
 Erlon, L. A.
Hamline Univ. Lib.
 Heneman, H. G.
 Herbert, C. P.
James Jerome Hill Ref. Lib.
 Houston, G. S.
 Jesness, O. B.
 Koller, E. F.
Macalester Col. Lib.
 McFarland, M. C.
Minnesota Hist. Soc.
*Minnesota State Law Lib.,
 State Capitol*
*St. Paul Pub. Lib., Order
 Dept., 4th and Washington
 St.*
 Sielaff, T. J.
Univ. Farm Lib.
*Vet. Admin. Br. Office 8,
 Deputy Admin., Lib. Div.,
 Fort Snelling*
 Waite, W. C.
 Young, F. A.
*Watkins, David R., Col. of
 St. Thomas Lib.*

St. Peter

Gustavus Adolphus Col. Lib.

Virginia

Junior Col. Lib.
 Moe, F. B.

Winona

Col. of St. Teresa
 Shannon, R. L.
State Teachers Col. Lib.
 Woods, R. M.

MISSISSIPPI**Cleveland**

*Delta State Teachers Col.,
 Roberts Memorial Lib.*

Clinton

Mississippi Col. Lib.

Columbus

*Mississippi State Coll. for
 Women, J. C. Fant Lib.,
 Box E, Col. Sta.*

Corinth

McPeters, W. L.

Hattiesburg

Dawson, C. C.
*Mississippi Southern Col.
 Lib.*

Jackson

Berry, T. S.
*Millsaps Col., Carnegie-
 Millsaps Lib.*
 Wallace, E. S.

Oxford

Trumbull, W. P.

State College

*Mississippi Agric. Exp. Sta.
 Lib.*
*Mississippi State Col., Gen-
 eral Lib.*

Tougaloo

Tougaloo Col. Lib.

University

Brown, H. B., Jr.
 Kuhlman, C. E.
 McKinney, D. H.
Univ. of Mississippi Lib.

Wesson

Copiah Lincoln Junior Col.

MISSOURI**Boonville**

*Kemper Military School Lib.,
 3rd St.*

Clayton

Keim, A. G.
*Soldofsky, Robert M., 8120
 Whitburn Dr.*

Columbia

Baker, H. P.
 Bauder, R. S.
 Brown, H. G.
 Hadorn, E. T.
 Hammar, C. H.
 Hartkemeier, H. P.
 Johnson, O. R.
*Peret, J. Cortland G., 307
 Thilly Ave.*
 Scott, DR
Stephens Col. Lib.
 Stubbs, F. L.
 Tracy, T. G.
 Traylor, O. F.
Univ. of Missouri Lib.
 Walker, P. C.
 Wennberg, S. G.
 Wood, E.

Fayette

Central Col. Lib.
 Puckett, E. P.

Fulton

Westminster Col. Lib.

Hayti

Rankin, J. O.

Jefferson City

Lincoln Univ. Lib.
 Powell, A. R.

Kansas City

Altschul, E.
 Cady, E. L.
 Cassidy, W. J.
 Colburn, L. D.
 Davis, G. C., Jr.
 Davis, H. B.
Fed. Res. Bank Lib.
*Fed. Sec. Agency, Soc. Sec.
 Admin., Reg. Office IX,
 Fidelity Bldg., Rm. 400,
 911 Walnut St.*
 Fisher, G. C.
 Hodges, J. R.
*Kansas City Junior Col. Lib.,
 3845 McGee St.*
*Kansas City Pub. Lib., 9th
 and Locust Sts.*
 Koontz, H. D.
 Robb, T. B.
*Rockhurst Col. Lib., 5225
 Troost Ave.*
 Tow, C. W.
*Univ. of Kansas City Lib.,
 5100 Rockhill Rd.*
 Weygint, N. B.

Kirksville

Clevenger, C. H.
*Northeast Missouri State
 Teachers Col.*

Kirkwood

Dauten, C. A.
 Jekel, O. H.

Liberty

Moore, J. B.
William Jewell Col. Lib.

Marshall

Cable, J. R.
Murrell Memorial Lib.

Nevada

Cotley Col. Lib.

Osborn

Higdon, E. T.

Pacific

Young, L.

Parkville

Park Col. Lib.

Richmond Heights

Schmidt, B. G.

Rolla

*Missouri School of Mines
 Lib.*

St. Charles

Lindenwood Col. Lib.

St. Louis

Abbott, W. J., Jr.
 Beckerle, V. J.
 Brown, L. C.
 Coleman, G. W.
 Connors, R. G.
 Curtis, L. S.
 Deming, F. L.
 Dempsey, B. W.
 Doyle, J. C.
*Fontbonne Col. Lib., Wy-
 down and Big Bend Blvds.*
 Gavin, M. H.
 Gregory, W. L.
*Harris Teachers Col. Lib.,
 1517 S. Theresa*
 Hauhart, W. F.
 Heuson, W. G.
 Hinman, A. G.
 Hochwald, W.
 Ischboldin Al Bakri, B.
 Jones, J. C., III

Legan, W. E.
 Linzee, H. E.
 Lippincott, I.
 Livingston, D. A.
 Loeb, I.
 McGinley, J. J.
*Mercantile Lib., 508 Locust
 St.*
 Meyers, A. C., Jr.
 Miller, J. W.
 Nash, Sister M. E.
 Neuhoft, R. R.
 Oakley, C. K.
 O'Neill, H. J.
*Penzler, K. E., Invest. Div.
 Trust Dept., Mississippi
 Valley Trust Co.*
 Phelan, T.
 Rabitt, D. J.
*St. Louis Pub. Lib., Olive
 13th, and 14th Sts.*
*St. Louis Univ., School of
 Com. and Fin. Lib.*
*St. Louis Univ. Lib., Grand
 and Pine Blvds.*
 Schwier, J. F.
 Sibley, E. C.
 Silvanie, H.
 Silvanie, S. R.
 Skinner, A. L.
 Stead, W. H.
*Stowe Teachers Col. Lib.
 2615 Pendleton*
 Tausch, C. F.
 Taylor, V. W.
 Thielecke, W. L.
 Vieth, A. G., Jr.
*Washington Univ. Lib.,
 Skinker and Lindell*
*Weigart-Dagen Shoe Co.
 503 N. 12th Blvd., Rm. 204*
 Welshans, M.
 Wenzlick, R.
*Woodruff, T. L., 3480 Mor-
 ganford Rd.*
 Zerzan, D.

Sappington

Sorkin, C. A.

Springfield

Rothwell, W. C.
Drury Col. Lib.
*Southwest Missouri State
 Teachers Col. Lib.*

Tarkio

McCollough, E. V.

University City

Boettler, H. F.

Warrensburg

Briggs, R.
*Central Missouri State
Teachers Col. Lib.*

Wentzville

Jackson, J. R.

MONTANA**Billings**

Cooper, V.
Dizmang, O. K.
Parsons, O. A.

Bozeman

Kelso, M. M., 517 W. Koch
St.
Lem, Robert, 622 W. Men-
denhall
Montana State Col. Lib.
Renne, R. R.

Dillon

Montana State Normal Col.

Helena

Carroll Col. Lib.

Missoula

Ely, R. J. W.
Hoflich, H. J.
Smith, T. H.
State Univ. of Montana Lib.
Wolfard, J. A.

NEBRASKA**Blair**

Dana Col.

Chadron

*Nebraska State Teachers
Col. Lib.*

Crete

Doane Col. Lib.

Deweese

Werner, R. O.

Fairbury

*Fairbury Pub. Schools, P.O.
Box 58*

Fremont

Midland Col.

Hastings

Hastings Col. Lib.
Lamb, W. R.

Lincoln

Arndt, K. M.
Bourne, R. M.
Bullock, T. T.
Burnett, J. O.
Crawford, R. P.
Dein, R. C.
Elliott, C. M.
Filley, H. C.
Fullbrook, E. S.
Hawkes, G. R.
Hicks, C. M.
Kennedy, C. J.
Latta, M. C.
Le Rossignol, J. E.
Lincoln City Lib.
Mattson, G. L.
McNeill, C. E.
*Nebraska Wesleyan Univ.
Lib.*
Palmer, E. Z.
Robertson, L.
Schmidt, E. B.
Strahl, R. M.
*Union Col. Lib., Col. View
Sta.*
Univ. of Nebraska Lib.
Virtue, G. O.
Weeks, D. H.
Whitney, R. C.

Omaha

Begley, J. P.
Crane, R. B.
Creighton Univ. Lib.
Cusack, L. A.
De Ford, J. F.
Downing, W. G.
*Duchesne Col. Lib., 36th and
Burt Sts.*
Lucas, J. W.
Munic. Univ. of Omaha Lib.
*Omaha Pub. Lib., 19th and
Harney Sts.*
Walsh, F. E.

Scottsbluff

Scottsbluff Junior Col.
Scottsbluff Pub. Schools,
Junior Col. Mag.

Wayne

State Teachers Col. Lib.

NEVADA**Carson City**

*Employment Security Dept.,
Capitol Annex Bldg.*
Wilson, W. C.

Reno

Clark, W. E.
Gordon, L. D.
Palmer, W. S., Jr.
Plumley, A. J.
Univ. of Nevada Lib.

NEW HAMPSHIRE**Concord**

New Hampshire State Lib.

Dover

Somers, R. H.

Durham

Bredo, W.
Degler, C. M.
Hogan, J. A.
Shafer, J. E.
*Univ. of New Hampshire,
Hamilton Smith Lib.*
Woodruff, R. J.

Hanover

Bell, H. P.
Bright, A. A., Jr.
Cusick, J.
Dankert, C. E.
*Dartmouth Col., Amos Tuck
School Lib.*
Dartmouth Col. Lib.
Duncombe, H.
Fisher, P.
Foster, L. O.
Goodhue, E. W.
Griswold, J. A.
Holben, R. E.
Keir, M.
Knight, B. W.
Lindahl, M. L.
Marx, D., Jr.
McDonald, J. L.
Olsen, H.
Ransmeier, J. S.
Rice, L. P.
Shaw, H. F. R.
Sikes, E. R.
Wood, D. T.
Woodworth, G. W.

Keene

Arwe, H. C.

Manchester

Manchester City Lib.
St. Anselm Col. Lib.

Wilton Centre

Sweezy, P. M.

NEW JERSEY**Allendale**

Foster, J. R.

Atlantic City

Karpinsky, W.

Bayonne*Bayonne Free Pub. Lib., Ave.
C and 31st St.***Belmar**

Katz, S. I.

Bernardsville

Hobbah, R. V.

Bloomfield*Bloomfield Col. and Sem.
Lib.*
Mayne, A.**Boonton**

Campbell, G. C.

Bridgeton

Flynn, O. R., Jr.

Caldwell*Caldwell Col. Lib.***Camden**

Schulman, R.

ChathamAnderson, R. E.
Arnold, R. H.**Clifton**Berkowitz, M.
Johnson, R. E.
Mikoljon, S. J.**Dumont**

Baker, N. H.

East OrangeMengelberg, K.
*Upsala Col. Lib., 339 Pros-
pect St.***East Rutherford**

Kronish, S. J.

Edgewater Park*Russell, Grace***Elizabeth***Elizabeth Free Pub. Lib.***Englewood**Crawford, W. H.
Peasley, P. C.
Reisman, G. F.
Sanderson, R. M.**Fair Haven**

Moeller, C., Jr.

Freehold

Herrman, H.

Glen Ridge

Hasbrouck, H. C.

Highland ParkHopkins, F. W.
Winters, R. A.**Hillside**

Kiernan, C. J.

HobokenBernheim, G. B.
Lesser, A., Jr.
*Stevens Inst. of Tech. Lib.***Irrington***Free Pub. Lib.*
Read, G. J.**Jersey City***Jersey City Free Lib., 472-
486 Jersey Ave.*
*Jersey City Junior Col. Lib.,
Crescent and Harrison
Aves.*
*St. Peters Col., Students Lib.***Keyport**

Viner, E. A.

Leonia

Maurer, W. J.

Lyndhurst

Lothian, J. E.

Madison*Drew Univ. Lib., Brothers
Col.*
*Montclair Free Pub. Lib.,
Church St. and Valley Rd.*
Schultz, R.
*State Teachers Col. Lib.***Maplewood**Bry, G.
Wachtel, S. S.**Montclair**

Clarke, S. V. Q.

Herz, H.Hubbard, J. B.
Kusik, J. E.
May, E. S.
Robbins, C.
State Teachers Col. Lib.
*Townsend, Mary D., 60 War-
ren Pl.*
Walker, Q. F.**Moorestown**

Williams, C. R.

Morristown

Streeter, T. W.

NewarkBurger, A. A.
*Bus. Br. of Lib., 34 Com-
merce St.*
*Compensation Rating and In-
spection Bur., 1203 Mili-
tary Park Bldg., 60 Park
Pl.*
Fetzer, J. C.
Finck, D. H.
Flink, S.
Hagios, J. A.
Hoffman, S. S.
Klein, J. H.
Neifeld, M. R.
Otto, E. A.
*Pub. Lib., Period. Lib'n, 5
Washington St.*
Rhodes, E. E.
*Rutgers Univ. Lib., 40 Rector
St.*
Taggart, J. H.
Weisenfeld, A.**New Brunswick**Agger, E. E.
Alexander, R. J.
Bagley, E. S.
Bagley, W. C., Jr.
Dockson, R. R.
Gideonse, M.
Kastelansky, G. S.
Keller, H., Jr.
Kurihara, K. K.
Leonard, W. N.
Mitchell, B.
Murad, A.
*New Jersey Col. for Women
Lib.*
Pierce, J. J., Jr.
Rutgers Univ. Lib.
Stephan, A. H. F.
West, M. E.**North Bergen**

De Hermida, F. A.

Nutley
Van Antwerpen, F. J.
Zwanzig, O. E.

Orange
Bennett, P. A.
Ehricke, K. N.

Passaic
De Mott, J. P.

Paterson
Denn, H. B.
Russak, M.
Stein, S. J.
Straus, E. M.

Perth Amboy
Perth Amboy Pub. Lib.

Plainfield
Holman, W. J., Jr.
Starkweather, L. P.
Steinberg, G. T.
Tyler, C. B.
Woolfson, A. P.

Princeton
Appelmans, J.
Aronson, R. L.
Baker, H.
Ballantine, R. W.
Brown, J. D.
Clemen, R. A.
Curran, K. J.
Danhof, C. H.
Dietz, A.
Dittmer, R. W.
Earle, E. M.
Fetter, F. A.
Fraser, H. W.
Goldenweiser, E. A.
Graham, F. D.
Howard, S. E.
Kelly, M. A.
Knipe, J. L.
Kriz, M. A.
Lester, R. A.
Liebenstein, H. M.
Lockwood, W. W.
Lutz, F. A.
Lutz, H. L.
Mair, G. F.
Marburg, T. F.
McCabe, D. A.
Modlin, C. P., Jr.
Morehouse, E. W.
Morganstern, O.
Oliver, R. W.
Plum, L. V.
Princeton Univ. Lib.
Raebeck, A. J.

Sametz, A. W.
Shafei, M. Z.
Silberner, E.
Smith, W. S.
Speagle, R. E.
Stephan, F. F.
Stewart, W. W.
Strayer, P. J.
Tippetts, C. S., Jr.
Viner, J.
Wallace, D. H.
Westefeld, A.
Wood, R. H.

Ridgewood
Ackerman, G. F.
Dix, S. M.
Fournier, L. T.
Hartogensis, A. M.
Majewski, L. J.
G. L. Pease Memorial Lib.

Ringoes
*Henssler, Frederick W., Pine
Twig Farm, R.D.*

Rocky Hill
Eby, B. S.

Roselle Park
Fulton, W. G.

Rutherford
*Fairleigh Dickinson Col.,
Montross and W. Passaic
Ave.*
Sinsabaugh, R. W.

Short Hills
Badgley, L. D.
Tuttle, P. M.

Somerville
Striner, H. E.

South Orange
*Cohn, Bertram J., 452 Twin
Oak Rd.*
Eppston, H. A.

Summit
Hiatt, A.
Watson, M. A.

Teaneck
Senturia, J. J.

Trenton
Nicolaysen, A. G.
Rider Col., Moore-Gill Lib.
Scherer, N.

Segal, S. A.
State Teachers Col. Lib.
Trenton Free Pub. Lib.

Upper Montclair
Atkins, P. M.
Glover, C. A.
Rappaport, D.
Reynolds, T. J.

Verona
Trotta, L.
Trotta, M. S.

Washington
Schlink, F. J.

Weehawken
*Cromwell, James H. R., 25
Kingswood Rd.*
*Diebold, John T., 62 Colum-
bia Ter.*
May, T., Jr.

West Collingswood
Hess, A. P., Jr.

West Englewood
Taylor, G. C.

West New York
Bader, L.

Westfield
Anderson, D. F.
Bean, M. H.
Goebel, R. H., Jr.
Taylor, A. W.
Tucker, R. S.

Wood Ridge
Morrow, D. W.

NEW MEXICO

Albuquerque
Anderson, J. E.
Baird, F.
Calkins, R. N.
Crobaugh, M.
Duncan, J. S.
Martin, N. D.
Obering, W. F.
Olm, K. W.
Parish, W. J.
Reva, H.
Shlefstein, H. M.
Sloan, V. B.
Sorrell, V. G.
Sturges, D.
*U. S. Dept. of Agric. Lib.,
Albuquerque Br., Box 1348*

Univ. of New Mexico Lib.
Wernette, J. P.
Wollman, N.

Los Alamos
Kelly, A. W.

Portales
Eastern New Mexico Col.
Jacobsen, A. D.

NEW YORK

Albany
Bucknam, R. F.
Davenport, D. H.
Dept. of Com. Lib., Rm. 301,
112 State St.
Ficek, K. F.
Fleming, R. R.
Kilduff, V. R.
Martin, E. W.
Martin, J. B.
New York State Lib., State
Educa. Bldg.
Phinney, J. T.

Alfred
Bella, S. J.
Langer, H. C., Jr.

Allegany
Finan, A. L., Jr.

Annandale-on-Hudson
Bard Col. Lib.
Bissell, M. J.
Rosen, G.
Sturmthal, A. F.

Arverne
Kaplan, E. J.

Astoria
Glickman, D. L.
Neiditz, V.
Tanenbaum, W.

Aurora
de Roover, R.
Magee, M. A.
Weld, W. E.
Wells Col. Lib.

Baldwin
Adler, J. H.

Baldwinsville
Booth, S. L.

Bayside
Flynn, J. T.
Sussman, N.

Bedford Hills
Angus, W. N.

Bellerose
Spahr, W. E.

Bronxville
Comstock, E. G.
Hamilton, D. C.
Jaffe, L. J.
Latour, C. C.
Sarah Lawrence Col. Lib.
Raushenbush, C.
Tredwell, T. A.

Brooklyn
Aries, R. S.
Auerbach, S. J.
Backman, J.
Bader, L.
Barbash, B.
Bazzett, H.
Beale, J. W.
Belfer, N.
Berg, Elliot J., 1148 51st St.
Blancato, A. F.
Bold, E.
Bolden, N. R.
Bookbinder, A. I. A.
Bookbinder, H. H.
Bornemann, A.
Bradford, G.
Brooklyn Col. Lib., Period
Div., Bedford Ave. and
Ave. H.
Brooklyn Pub. Lib., Central
Serv., Grand Army Plaza
Brooklyn Pub. Lib., Mon-
tague Br., 197 Montague
St.
Bur. of Lib., 110 Livingston
St.
Burnside, M.
Calmus, H. S.
Carpenter, Marian F., 423
Clinton Ave.
Cave, R. A.
Cohen, D.
Cohen, Hannah, L.
Cohen, Harry L.
Corbett, J. F.
Dannenberg, F. M.
Diamond, A. H.
Diamond, H. S.
Diamond, P. M.
Dworetsky, J. H.
Egan, J. J.
Eisenberg, W. L.

Eucharis, Sister M.
Gelfand, J. E.
Glasser, I.
Glassman, A. R.
Goldberg, S. P.
Goldstein, I. J.
Gordon, J.
Grey, C. K.
Griffin, J. I.
Groman, E.
Handlin, S.
Heller, Edward M., 16 Court
St.
Hendricks, W. P.
Hession, C. H.
Hillson, Henry T., Midwood
High School, Bedford and
Glenwood Rd.
Himmelfarb, M.
Hirsch, M. L.
Hirshleifer, J.
Hoch, M. B.
Hoch, M. L.
Horowitz, C. M.
Jacobson, S.
Kaplinsky, M. H.
Karp, J. R.
Klang, G. L.
Klebaner, B. J.
Kolodny, J.
Korey, E. L.
Kraines, O.
Kravitz, B.
Kravitz, H.
Kristof, F. S.
Kroll, B. H.
Laidler, H. W.
Levine, A. J.
Lipsky, D.
Lipstein, B.
Loft, J.
Lopata, S.
Lutzker, S.
Marcus, E.
Max, W. D.
McCormick, Eleanor, 1827 E.
18th St.
Mendell, H. C.
Miller, S.
Mincis, A. S.
Nelson, M.
Norton, J. R.
Peppard, J. F.
Perlman, I.
Pollock, M. I.
Polner, W.
Pomerantz, S. I.
Pratt Inst. Lib.
Prokopec, J.
Ratner, S.
Reierson, R. L.
Rosen, M.
Rubin, M.

Ruchlis, H.
 Rudolph, L. M.
 Ruhmer, O. E. M.
 Runge, E. J.
St. Francis Col. Lib., 41 Butler St.
St. John's Univ. Lib., 75 Lewis Ave.
St. John's Univ. Lib., 96 Schermerhorn St.
St. Joseph Col. for Women Lib., 265 Clinton Ave.
 Sarfaty, D. E.
 Sarnoff, M. M.
 Schneider, L. G.
 Schurman, B.
 Seligman, R. R.
 Shaffer, H. G.
 Shapiro, J.
 Shapiro, M. M.
 Shlakman, V.
 Shuloff, E. H.
 Simpson, E. T.
 Singer, I. L.
 Singli, A.
 Smith, A. L.
 Solomon, M. J.
 Sperling, C.
 Spiro, J. B.
 Stein, H.
 Stevens, M. S.
 Stewart, J. S.
 Treuenfels, R. L.
 Weidenbaum, M.
 Weinman, A.
 Weintraub, S.
 Weitz, L.
 Weitzman, M. S.
 Wolfort, R. E.
 Wolfson, T.
 Wolk, S. J. B.
 Young, E. R.
 Zunder, R. D. F.

Brookville

Bell, J. C.

Buffalo

Buffalo Pub. Lib., Order Dept.

Caves, M. R.
 Chambers, R.
 Chartener, W. H.
 Epstein, R. C.
 Ertell, M. W.
 Fichtner, C. C.
 Francis, C. L.
 Froman, L. A.
Grosvenor Lib.
 Hamovitch, W.
 Henderson, J. P.
 Hollander, S. C.
 Joseph, Sister

Kaufman, J. J.
 Marimont, M. L.
 McGarry, E. D.
 Mitchell, J. M.
 Naylor, R. W.
 Peterson, V. K.
 Puffer, C. E.
 Shea, J. L.
 Smith, E. K.
 Somers, H. M.
 Staubus, G. J.
 Sumner, J. D.
 Sweeney, L. A.
 Tzetzto, F.
Univ. of Buffalo Lib., 3399 Main St.
Univ. of Buffalo, Crosby Hall, Dept. of Statis.

Campbell Hall

Burns, A. R.
 Burns, E. M.

Canton

Carroll, J. J.
 Consler, R. E.
 Delaplane, W. H.
St. Lawrence Univ. Lib.
 Townsend, R. G.

Chappaqua

Ostrander, F. T., Jr.
 West, R. R.

Clinton

Gambs, J. S.
Hamilton Col.
 Patton, F. L.

Cobleskill

Hess, R. H.

Cornwall

Moore, H. L.

Crompond

Valenstein, C.

Croton-on-Hudson

Wright, C. A.

Delhi

New York State Agric. and Tech. Inst.

Delmar

Armstrong, C. M.
 Gillett, R. L.

Dewitt

Baysinger, R. H.

Dobbs Ferry

Person, H. S.

Douglas Manor

Dinic, C. J.
 O'Shea, V. J.

Douglaston

Jones, T. C.
 King, W. I.
 Sheppard, R. C. S.

East Patchogue

Ditmars, A.

East Rochester

Karger, J.

Eggertsville

Gray, D. H.
 Oldman, O. S.

Elmira

Bernt, H. H.
Elmira Col. Lib.

Elmont

Kass, D.

Endicott

Claydon, A.
Triple Cities Col. Lib., 304 Lincoln Ave.

Fishkill

Peters, I. L.

Floral Park

Bauman, R. G.
 Neisser, H. P.

Flushing

Byrne, E. E.
 Hart, A. L.
 Kushner, E. A.
 Newmeyer, A. S.
Queens Col. Lib., Serials Div.
 Stevens, R. I.
 Strickland, I. S.
 Strickland, M. A.
 Zivan, M.

Forest Hills

Baer, W.
 Bagwell, I. L.
 Bing, R. A.
 Cartinhour, G. T.
 Cole, H. W.
 Fergenson, M. C.
 Hidy, R. W.
 Jaworski, S.

Lewis, R. M.
Wyler, J. V.

Forest Hills Gardens
Gawthrop, P. R.

Freeport
Harrigan, A. W., Jr.

Garden City
Adams, R. W.
Adelphi Col. Lib.
Baumert, W. A.
Castillo, E.
Kemp, A.
McCrea, R. C.
Villard, H. H.

Geneva
Aleksandrowicz, I.
Hobart Col. Lib.

Glens Falls
Borst, Guernsey J., Skidmore Col. Ext.
Farrar, E. F.

Great Kills
Dameron, W. R.

Great Neck
Colen, D. J.
Gaston, J. F.
Gideonse, H. D.
Hilgerdt, F.
Landau, A.
Lindow, W.
Mayer, L. K.
Paris, J. D.
Seymour, H. V.

Greenport
Fordham, H.

Hamilton
Bancroft, E. C.
Behrendt, R. F. W.
Colgate Univ. Lib.
Crook, W. H.
Farnsworth, F. A., Jr.
Kessler, W. C.
Palatini, Gerald, Phi Gamma Delta, Colgate Univ.
Petshek, K. R.
Zassenhaus, H. K.

Hampton Bays
Dewey, A. E. H.
Dewey, L. E.

Harrison
Gertler, A. S.
Gertler, M.

Hartsdale
Edwards, G. W.
Gillman, J. M.
Ludt, R. E.
Stewart, B. M.

Hempstead
Fusfeld, D. R.
Hofstra Col. of New York, Univ. Lib., East Fulton Ave.
Niellander, W. A.
Truitt, G.
Wattel, H. L.

Hicksville
Galloway, L. J.

Hollis
Coddington, H.
Wenzler, G. H.

Houghton
Shea, J. W.

Hudson
Hathaway, F. R.

Huntington
Gibson, W. G.

Hyde Park
Morgan, G.

Irvington
Couper, W. J.

Irvington-on-Hudson
Curtiss, W. M.
Read, L. E.
Watts, V. O.

Ithaca
Adams, G. P., Jr.
Adams, L. P.
Aikin, A. M.
Allaway, R.
Beyer, G. H.
Canon, H.
Cornell Univ., N.Y.S. School of Ind. and Labor Rela. Lib., Myron Taylor Hall
Cornell Univ. Lib.
Day, E. E.
de Chazeau, M. G.
Dodge, N. T.
Duncan, D. J.

Dye, H. S.
Dymond, W. R.
Einaudi, L.
English, D.
Ferguson, R. H.
Gordon, D. F.
Hutchins, J. G. B.
Jensen, V. H.
Kahn, A. E.
Kendrick, M. S.
Koplin, H. T.
Marquardt, P. I.
Meek, H. B.
Mendelson, M.
Montgomery, R. E.
Morton, J. E.
Neufeld, M. F.
New York State Col. of Agric., Agric. Econ. Lib.
Nilsson, A. E.
O'Leary, P. M.
Partner, J. W.
Reed, H. L.
Reubens, B. G.
Reubens, E. P.
Southard, F. A., Jr.
Stocker, F. D.
Sultan, P. E.
Tolles, N. A.
Tyndall, D. G.
Van Tassel, R. C.
Wait, W. B.
Willcox, W. F.

Jackson Heights
Benjamin, H.
Evant, A. T.
Grad, A. J.
Hanley, Walter, 37-34 84th St.
Newman, P. C.
Sard, E. L.

Jamaica
Chen, Y. N.
de Podwin, H. J.
Doblin, E. M.
Durand, J. D.
Kemp, F. B.
Kera, J. W.
Mayer, L. A.
Obrist, M. A.
Pintos, J.
Queens Borough Pub. Lib., Period. Div., 89-14 Parsons Bld.
Ullrich, F. J.
Weintraub, D.

Kenmore
Barnet, E. M.
Wixon, R.

Kew Gardens

Block, H. S.
Knaf, H. G.
Krooss, H. E.
Marx, W.

Lake Success

Abraham, W. I.
Alden, L. A.
Baster, J.
Brand, W., *United Nations,
Dept. of Econ. Affairs*
Chudson, W. A.
Deperon, P.
Glassman, S.
Lachmann, K. E.
Leonard, W. R.
Mosak, J. L.
Rosenborg, A.
Shapiro, L. A.
Tenenbaum, H.
*United Nations Lib., Period.
Serv.*

Larchmont

Hart, M. I.
Hoyt, H.
Jacobs, A. T.

Little Neck

Walker, J. R.

Long Beach

Wexler, H.

Long Island City

*de Arrieta, Juan, 4115 50th
Ave.*
Garvy, G.
Magdoff, H. S.
Petras, G. S.

Loudonville

Buff, J. A.
Siena Col. Lib.

Malba

Drutzu, S. T.

Malverne

McComas, F. W., Jr.
Schneider, J. H., Jr.

Mamaroneck

Abbott, L.
Bryan, R. R.

Manhasset

Phipps, I. R.

Maspeth

Lichtash, B. S.

Merrick

Model, M.

Mt. Kisco

Blake, E. M.

Mt. Vernon

Blank, D.
Cullen, J. A.
*Holmes, Earl A., 20 Roose-
velt Sq., W.*
Marks, M. M.
Perlman, R. W.
Mt. Vernon Pub. Lib.
*Schuss, Jack E., 625 Lafay-
ette Ave.*
*Stiller, Jesse, 7 Lexington
Ave.*
Reimann, G.

New Brighton

Smith, H. L. H.

Newburgh

Desmond, T. C.

New Paltz

State Teachers Col. Lib.

New Rochelle

Becker, N. M.
Bradford, E. S.
Col. of New Rochelle Lib.
Iona Col. Lib.
Roswell, D. S.
Rukeyser, M. S.
Sera, S.
Snyder, E. M.
Symons, J. H.
Thomson, D. L.

New York

Abramovitz, C.
Abramovitz, M.
Adler, H. A.
Afros, J. L.
Allen, W. H., Jr.
Alton, T. P.
*Amalgamated Clothing
Workers, 15 Union Sq.*
America, 329 W. 108th St.
*Amer. Inst. of Accountants,
13th E. 41st St.*
*Amer. Mgt. Asso. Lib., 330
W. 42nd St.*
*Amer. Petroleum Ind. Com.,
50 W. 50th St.*
Amer. Tel and Tel. Co., Gen.
*Lib., 195 Broadway, Rm.
940*
Anderson, C. D.
Anderson, D. A.
Anderson, J. R.
Anderson, M. A., Jr.
Anderson, T. J.
Andrews, A.
Angell, J. W.
Armstrong, R. H.
Arnold, A. Z.
Arrill, D.
Arrow, A.
Arrow, K. J.
Aspis, D.
Asofsky, A. A.
Aul, H. E.
*Australian Mission to United
Nations, Empire State
Bldg., Rm. 4510*
Bachelor, R. W.
Baker, E. F.
Ball, I. O.
Ballinger, R. A.
*Bank of New York, Sec.
Res. Dept., 48 Wall St.*
*Bunkers Trust Co. Lib., 16
Wall St.*
Baran, P. A.
Barker, C.
Barkin, S.
*Barnard Col. Lib., Columbia
Univ.*
Barnard, C. I.
Barnes, L.
Barr, P.
Barrett, J. L.
Baruch, B. M.
Bass, L. W.
Bates, E. W.
Bauer, J.
Beck, M.
Beckhart, B. H.
Behlow, R. R.
Beimel, E.
Belcher, D. R.
Beller, W. C.
Bennett, A. S.
Bennion, E. G.
Berg, J. L.
Bergson, A.
Bernstein, M.
Berridge, W. A.
Bethke, R. H.
Bigelow, K. W.
Bing, A. M.
Blanchard, R. H.
Block, E.
Bloomfield, A. I.
Bober, W. C.
Bock, Betty, 309 W. 109th St.
Bogart, E. L.
Bogen, J. I.
Bonbright, J. C.

- Borgen, H. D.
 Boschan, C. F.
 Boschan, P.
 Boss, I. S.
 Boudin, L. B.
 Brand, M.
 Brickner, A.
 Brigg, H. S.
 Brissenden, P. F.
British Info. Serv., Period.
Purchasing Unit, 30
Rockefeller Plaza
 Brown, L. H.
 Brown, M. V.
 Browne, M. S.
Brummell, Eliot, 365 West
End Ave.
 Brush, W. S.
 Bryde, T. J.
 Buchanan, N. S.
 Bund, H.
 Burgess, R. W.
 Burgess, W. R.
 Burns, A. F.
 Burns, D. F.
 Burrill, C. L.
 Burstein, H.
 Bushey, J. H.
 Bussing, I.
 Bуттенheim, H. S.
Byrnes, Arthur, 4067 95th
St., Elmhurst
 Calhoun, C. P.
 Calkins, R. D.
 Camitta, R.
Campos, Roberto de Olive-
ira, Brazilian Delegate to
United Nations, Empire
State Bldg., Rm. 6005
 Carbert, L. E.
 Carey, R. L.
 Carpenter, W. M.
 Carr, H. C.
 Carskadon, J. H.
 Case, W. W.
Central Hanover Bank and
Trust Co. Lib., P. O. Box
33, Church St. Sta.
 Cevallos, B.
Chace, Hugh R., Bank of
New York, 48 Wall St.
 Chaiken, I. B.
 Chan, K. Y.
 Chapman, J. G.
 Chapman, J. M.
Chase Nat. Bank Lib., Pine
St. Corner of Nassau
 Chen, H. H. C.
 Chenault, L. R.
 Cheney, R. A.
 Chenkin, A.
 Chingos, E. G.
 Chinlund, E. F.
 Clark, E.
 Clark, H. F.
 Clough, S. B.
 Cochran, T. C.
 Cogen, C.
 Cohen, F.
 Cohen, J. B.
 Cohen, L. B.
 Cohen, S. L.
 Coit, E. G.
 Coleman, F. B. T.
 Colgan, V. E.
 Colin, D. H.
Col. of City of New York
Lib., Convent Ave. and
139th St.
Col. of City of New York,
School of Bus. Lib., 17
Lexington Ave.
Col. of Sacred Heart Lib.,
Manhattanville, Convent
Ave. and 133rd St.
 Colton, S. B.
Columbia Univ., Bus. Lib.,
114th St. and Broadway
Columbia Univ. Bookstore,
2960 Broadway
Columbia Univ. Lib., Colum-
bia Univ., South Hall
Communist Party, 35 E. 12th
St.
Consolidated Edison Co. of
New York Lib., 4 Irving
Pl., Rm. 1650 S.
 Cook, G. C.
 Cook, J. A.
 Coolidge, L. D.
Cooney, William P., 101 W.
11th St.
Cooper Union Lib., Cooper
Union
Corporacion de Fomento de
la Produccion, 37 Wall St.
 Cortney, P.
 Cotton, T. L.
 Court, S. E.
 Cowdrick, E. S.
 Crowder, W. F.
 Croxton, F. E.
 Cumberland, W. W.
 Cunanan, J.
 Dahlberg, A. O.
Dake, L. E., Continental Can
Co., Commercial Res.
Dept., 100 E. 42nd St.
 Dale, E.
 d'Arlin, M. Y.
 Davenport, R. W.
 Davis, P. V.
 Davis, W. C.
 Dean, C. R.
 Dean, W. H.
 de Capriles, M. A.
 De Castro-Barberena, M.
 Deckinger, E. L.
 de Dioszegh, R. K.
Dept. of Labor, Div. of
Place. and Unemp. Res.
Lib., 342 Madison Ave.,
Rm. 1118
Dept. of State, IBD Res. and
Lib., 250 W. 57th St., Rm.
1222
 Desrochers, R. I.
 de Vegh, I.
 Dewey, F. A.
 Dewhurst, J. F.
 Deyrup, F. J.
 Diamond, J. J.
 Dimmler, G. F.
 Dingol, S.
Div. of Res. and Statis., State
of New York Banking
Dept., 80 Centre St.
 Dobrovolsky, S. P.
 Dodd, D. L.
 Donald, W. J. A.
 Doremus, W. L.
 Dorfman, J.
 Drench, D.
 Dressler, B. G.
 Duffy, D.
Dun and Bradstreet, Inc.,
Bus. Lib., 290 Broadway
 Dunayevskaya, R.
 Durand, D.
 Dutka, A. B.
 Eason, W. W.
 Eastwood, R. P.
 Eddy, N. H.
 Edie, L. D.
 Edwards, J. D.
 Effinger, R. C.
Efron, Alexander, Nat.
Safety Bank and Trust
Co., 1384 Broadway
 Egand, L. M.
 Ehrhorn, O. W.
 Ehrlich, O. H.
Elbert, George A., 430 E.
86th St.
 Eldean, F. A.
 Eliot, C.
 Ellenberg, M.
 Emmet, B.
Empire Trust Co. Lib., P.O.
Box 28, Wall St. Sta.
 Entes, J. M.
 Erlich, A.
 Eskildson, H. N.
 Estrin, J. C.
 Ethe, S.
 Evans, R. F.
 Fabricant, S.
 Fackler, C. W.
Fairchild Pub., Readers
Dept., 8 E. 13th St.
Fed. Res. Bank of New

- York, Ref. Lib., Fed. Res. Sta.
 Feit, J. F.
 Felde, L. S.
 Feldman, D. D.
 Ferber, M. A.
 Ferber, R.
 Ferguson, E. S.
 Ferrin, D. H.
 Fertig, Lawrence, Lawrence Fertig and Co., 149 Madison Ave.
 Field, F. V.
 Field, M.
 Finnegan, J. H.
 Firth, N. C.
 Fischer, H. S.
 Fisher, B.
 Fisher, E. M.
 Fitch, J. A.
 Fitzgerald, G.
 Florinsky, M. T.
 Foa, B.
 Fordham Univ. Lib., Grad. Dept., Fordham Rd.
 Fordham Univ. Lib., Polit. Philosophy Dept.
 Fordham Univ. Lib., School of Educa., 302 Broadway
 Foreign and Int. Book Co., 110 E. 42nd St.
 Forkosch, M. D.
 Fortune Lib., Empire State Bldg., 350 Fifth Ave.
 Foster, M. B.
 Fraine, H. G.
 Francis, Brother C.
 Franklin, B. M.
 Friedman, C. H.
 Friedman, E. M.
 Friedman, H. G.
 Friedman, I. H.
 Frummerman, H.
 Fuller, Henry, c/o Houghton Mifflin Co., 432 Fourth Ave.
 Fulton, J. F.
 Gaines, D. I.
 Gainsbrugh, M. R.
 Galbraith, J. K.
 Gamser, H. G.
 Garbuny, S.
 Gardner, C. L.
 Gardner, F. I.
 Gardner, H. R.
 Garfield, F. M.
 Garrido-Torres, J.
 Gayer, A. D.
 General Electric Co., 570 Lexington Ave.
 General Motors Corp., Dept. of Pub. Rel. Lib., 1775 Broadway, Rm. 1409
 General Motors Overseas Operations, 1775 Broadway
 George, E. B.
 George S. Armstrong and Co. Lib., 52 Wall St.
 Gershowitz, I.
 Gerstenberg, C. W.
 Gettell, R. G.
 Gidumal, H.
 Gifford, W. S.
 Ginzberg, E.
 Girard, R. A.
 Girdner, William, Melville Shoe Corp., 25 W. 43rd St.
 Gitelson, M. L.
 Givens, M. B.
 Glade, F. II.
 Gladstein, E.
 Glaeser, W. W.
 Glenn, J. M.
 Goetz, J. H.
 Goldberg, R.
 Golden, P.
 Goldman, J.
 Goldwater, M.
 Gomborg, W.
 Goodman, A. D.
 Goodrich, C.
 Gordon, B. H.
 Gordon, E. L.
 Gordon, M. J.
 Gorski, R. V. S.
 Gort, M.
 Gostonski, A.
 Gottesman, E.
 Gottlieb, E.
 Gould, H. H.
 Gould, J. M.
 Gourvitch, A.
 Grady, E. H.
 Graham, B.
 Grebler, L.
 Green, E. H.
 Greenfield, H.
 Greenspan, B.
 Greenway, J. C.
 Grey, A.
 Grosse, A. P.
 Grosse, R. N.
 Guaranty Trust Co. of New York, Ref. Lib., 140 Broadway
 Guardian Life Ins. Co., 50 Union Sq.
 Gumperz, J.
 Gunz, M. K.
 Guzik, L.
 Haagens, Gerard E., 597 Fifth Ave.
 Hacker, E. A.
 Hacker, L. M.
 Hagedorn, G. G.
 Hahn, L. A.
 Haig, R. M.
 Haines, W. W.
 Hale, R. L.
 Hall, S. M.
 Hamilton, E. P.
 Hammer, R. B.
 Hanlon, Jeanette, Workmen's Comp. Bd., 80 Centre St., Rm. 786
 Hardman, J. B. S.
 Harper, F. A.
 Harrison, S. M.
 Harriss, C. L.
 Hart, A. G.
 Hart, L.
 Hartwell, J. M.
 Hauge, G. S.
 Hauser, F. L.
 Hayden, William M., Anaconda Copper Mining Co., 25 Broadway, Rm. 2157
 Hazard, D. C.
 Hazlitt, H.
 Heaney, N. S.
 Heilbrun, J.
 Heilperin, M. A.
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Canton

Canton Pub. Lib., Main Adult Dept.
Thom, W. R.

Cincinnati

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Univ. of Cincinnati, Gen. Lib.
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Xavier Univ. Lib., Evanston Sta.

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Cleveland Pub. Lib., Serials Dept., 325 Superior Ave.
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Fenn Col. Lib., E. 24th and Euclid
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Hiram Col. Lib.

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Langston

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Univ. of Oklahoma, Pub. Info. Dept., Extension Div.
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Oklahoma City

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Murdock, J. C.
Oklahoma City Univ. Lib.

Okmulgee

Oklahoma A. and M. Col. Lib., Okmulgee Br.

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Nelson, P.
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Thomas, R. D.

Tahlequah

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Tonkawa
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Box 12

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Geneva Col. Lib., McCartney
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Gray, R. H.
Hotchkiss, H. D.
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Cambridge Springs
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Carlisle
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Erie Pub. Lib.
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Drexel Inst. Lib.
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 1345*
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 Arts*

Rio Piedras
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 Sci. Res. Center*
*Univ. of Puerto Rico Lib.,
 Agric. Exp. Sta.*
*Univ. of Puerto Rico, Univ.
 Lib.*

San German
*Poly Inst. of Puerto Rico
 Lib.*

San Juan
 Cordero, R. de J.

Santurce
 Bermudez, J.
 Esteves, V. R.

RHODE ISLAND**Edgewood**

Bliss, Z. W.

Johnston

Wilson, H. W.

Kingston

Briggs, W. S.

Kimball, M.

Rhode Island State Col. Lib.

Rockafellow, R.

Schwartz, E.

Newport

Klein, S. A.

Providence

Beatty, W. C.

Bosland, C. C.

Brown Univ. Lib.

Foley, J. H., Jr.

Hartland, P. C.

Morgan, J. N.

Maroni, Y. R.

*Pembroke Col. Lib., Brown Univ. Lib.**Providence Col. Lib.**Providence Pub. Lib.*

Quirk, C. B.

Rhode Island State Lib.

Smith, H. M.

Smith, V. E.

Stoltz, M. P.

Swerling, B.

Taft, P.

Westerly

Williams, C. S.

SOUTH CAROLINA**Charleston***Citadel Lib.*

Reilly, M. A.

Clemson

Powers, R.

Clemson College

Aull, G. H.

Columbia

Derrick, S. M.

McCutchen, G.

Morris, J. A.

Smith, A. G., Jr.

Tomlin, G. W.

*Univ. of South Carolina,**McKissick Memorial Lib.,**Period. Rm.***Gaffney***Limestone Col. Lib.***Greenville***Bob Jones Univ. Lib.**Furman Univ. Lib.*

Heatwole, R. W.

Newberry

Aman, J. A.

Graves, L. B.

Orangeburg

Southern, J.

Rock Hill*Winthrop Col., Carnegie Lib.***Spartanburg***Converse Col. Lib.***Summerville**

Van Voorhis, R. H.

Sumter*Morris Col. Lib.***SOUTH DAKOTA****Brookings**

Smythe, L. T.

*South Dakota State Col.,**Lincoln Memorial Lib.***Huron***Huron Col. Lib.***Mitchell***Dakota Wesleyan Univ.***Pierre***South Dakota Free Lib. Com.***Sioux Falls***Augustana Col. Lib.*

Person, W. A.

*Sioux Falls Col. Lib.***Vermillion**

Jones, J. P.

Mathis, P. C.

Patterson, R. F.

Univ. of South Dakota Lib.

Whitlow, C. J.

Yankton

Janssen, H.

Kravitz, B.

*Yankton Col. Lib.***TENNESSEE****Bristol**

Guyton, P. L.

*King Col. Lib.***Chattanooga**

Kampmeier, R. A.

*Univ. of Chattanooga Lib.***Clarksville***Austin Peay State Col.***Cookeville***Tennessee Poly. Inst. Lib.***Greeneville**

Austin, R. C.

*Tusculum Col. Lib.***Harrogate***Lincoln Memorial Univ. Lib.***Jackson***Union Univ. Lib.***Jefferson City***Carson-Newman Col. Lib.***Kingsport***Tennessee Eastman Corp.,**Bus. Lib.***Knoxville**

Bertram, R. F.

Boedecker, K. A.

Buchanan, J. M.

Campbell, A. S.

Clark, L. H.

Deupree, R. G.

Glocke, T. W.

Goeltz, J. D.

Hales, C. A.

Howard, T. L.

Hudson, W. J.

Knoxville Col. Lib.

Lamke, E. A.

Lawson McGhee Lib.

Macon, H. L.

McPherson, W. K.

Neuner, E. J., Jr.

Read, W. H.

Roberts, M. J.

*Tennessee Valley Authority,**Tech. Lib.**Univ. of Tennessee Lib.*

Ward, F. B.

White, C. P.

Lebanon*Cumberland Univ. Lib.***Madison College***Madison Col., Druillard Lib.*

Martin

Univ. of Tennessee, Junior Col. Lib.

Maryville

Maryville Col., Lamar Memorial Lib.

Memphis

Buckingham, F. A.
Goodwyn Inst. Lib.
Hochmann, A.
Hon, R. C.
Junkin, W. R.
Lemoyne Col., 807 Walker Ave.
Memphis State Col., Educa. Div. Lib.
Moloney, J. F.
Southwestern Lib.

Milligan College

Milligan Col. Lib.

Murfreesboro

Middle Tennessee State Col. Lib.

Nashville

A. and I. State Col. Lib.
Campbell, R. A.
Carlson, R. E.
Crouch, C. E.
Fisk Univ. Lib.
George Peabody Col. for Teachers
Heck, V. C.
Hope, J. H.
Joint Univ. Lib.
McKean, R. N.
Nicholls, W. H.
Rasmussen, E. G.
Shahan, E. P.
Stocking, G. W.
Ward, J. E.

Pressmen's Home

Int. Printing Pressmen and Assistants' Union, Serv. Bur.

Sewanee

Univ. of South Lib.

TEXAS**Abilene**

Abilene Christian Col. Lib.
Hardin-Simmons Univ. Lib.
McMurray Col. Lib.

Alpine

Sul Ross State Teachers Col. Lib.

Amarillo

Amarillo Pub. Lib.

Arlington

Armstrong, A. B.
North Texas Agric. Col. Lib.

Austin

Allen, R. A.
Ayres, C. E.
Brown, J. E.
Chute, A. H.
Clark, D. M.
Cox, A. B.
Dolley, J. C.
Dyche, D. H.
Fitzgerald, J. A.
French, R. W.
Greif, E. C.
Hale, E. E.
Hamilton, D. B., Jr.
Heim, P.
Love, J. L.
Miller, E. T.
Nelson, E.
Peck, H. W.
Prather, C. L.
Samuel Huston Col. Lib.
Simmons, C. D.
Smith, E. G.
Snell, H. K.
Stockton, J. R.
Texas State Lib.
Thompson, C. C.
Univ. of Texas Lib., Serials Aquisition
Walker, C. E.
Watt, J. R.
Welsh, C. A.
Zimmermann, E. W.

Belton

Mary Hardin-Baylor Col. Lib., Baylor Sta.

Big Spring

Howard County Junior Col. Lib.

Brownwood

Howard Payne Col. Lib., Box 493
Merzbach, L. H.
Southwestern Univ., Daniel Baker Col. Lib.

Bryan

Fouraker, L. E.

Canyon

West Texas State Teachers Col. Lib.

College Station

Adams, I. G.
Clark, F. B.
Hamilton, T. R.
Leland, T. W.
Liebhafsky, E. E.
Morgner, A.
Putnam, R.
Randle, C. W.
Schenk, W. E.
Sumner, V. D.
Texas A. and M. Col. Lib.

Commerce

East Texas State Teachers Col. Lib.

Corpus Christi

Corpus Christi Junior Col. Lib.
McMillan, T. E., Jr.

Crandall

Grubbs, K. R.

Dallas

Dallas Col. Lib., 500 N. Akard St.
Dallas Pub. Lib.
Davis, J. A.
Faight, W. A.
Fed. Res. Bank of Dallas Lib.
Goodstein, B. M.
Irons, W. H.
Johnson, K. W.
Mayes, H.
McCreary, J. W.
Pritchett, W. M.
Rosoff, Raymond, Wilson Bldg.

Sharp, L.
Smith, A. A.
Smith, B. J.
Southern Methodist Univ. Lib.
Vet. Admin. Br. Office 10, Deputy Admin., 1114 Commerce St.
Zingler, E. K.
Zook, P. D.

Denton

Barton, S. B.
Johnson, J.
Lang, A. S.
Melton, R. B.
North Texas State Teachers Col. Lib.
Shelton, D. W.
Texas State Col. for Women, Bralley Memorial Lib.

El Paso

Col. of Mines and Metallurgy Lib.

Ft. Worth

*Pub. Housing Admin., Reg.
Econ., 725 T. and P. Pas-
senger Bldg.
Pub. Lib.
Texas Christian Univ. Lib.
Texas Wesleyan Col. Lib.*

Galveston

Rosenberg Lib.

Georgetown

*Southwestern Univ., Cody
Memorial Lib.*

Hawkins

Jarvis Christian Col. Lib.

Houston

*Buechel, F. A.
Giles, J. B.
Gonzales, R. J.
Gordon, W. C.
Hodges, J. E.
Houston, Pub. Lib.
Rice Inst. Lib., P.O. Box 1892
Sowell, Richard M., 10 W.
Lane
Texas State Univ. for Ne-
groes Lib.
Univ. of Houston Lib., St.
Barnard at Wheeler
Univ. of St. Thomas Lib.,
3812 Montrose Blvd.*

Huntsville

*Estill Lib., Sam Houston
State Teachers Col.*

Kerrville

Murdoch, A. E.

Kilgore

Kilgore Col. Lib.

Kingsville

*Texas Col. of Arts and Ind.
Lib.*

Lubbock

*Clover, V. T.
Gibson, E. W.
Texas Tech. Col. Lib.
Wiesen, T. F.*

Marshall

*Bishop Col. Lib.
East Texas Baptist Col.
Wiley Col., Carnegie Lib.*

Nacogdoches

*Cornish, R. S.
Stephen F. Austin State
Teachers Col. Lib.*

Panhandle

Warren, D. M.

San Antonio

*Anthone, S. V.
Bowman, A. C.
Forsyth, F. H.
Hendricks, H. G.
Incarnate Word Col. Lib.
Kohnen, G. B.
Our Lady of Lake Col. Lib.
San Antonio Pub. Lib.
Shapiro, H. A.
Trinity Univ. Lib.*

San Marcos

*Southwest Texas State
Teachers Col. Lib.*

Sherman

*Austin Col. Lib.
McCloud, L. W.*

Stephenville

*John Tarleton Agric. Col.
Lib.*

Tehuacana

Westminster Col. Lib.

Tyler

*Carnegie Pub. Lib.
Texas Col. Lib.
Tyler Junior Col.*

Waco

*Baylor Univ. Lib., Box 307,
Baylor Univ. Sta.*

Weatherford

Weatherford Col. Lib.

Wichita Falls

*Hardin Col., Martin Lib.
Kemp Pub. Lib.*

UTAH**Cedar City**

Br. Agric. Col. Lib.

Logan

*Arrington, L. J.
Israelson, V. L.
Murray, E. B.
Utah Agric. Col. Lib.*

Ogden

Carnegie Free Lib.

Provo

*Pond, A. S.
Provo Pub. Lib.*

Salt Lake City

*Adams, T. C.
Beal, T. B.
Bearnson, J. B.
Due, J. F.
Maloney, J. R.
Rasmussen, J. J.
Richardson, R. C.
Stucki, R.
Thomas, G.
Univ. of Utah Lib.
Walker, D.
Westminster Col. Lib.*

VERMONT**Bennington**

*Bennington Col. Lib.
Mendershausen, H.*

Bethel

Dimock, M. E.

Burlington

*Andrews, B. R.
Briggs, I. L.
Groat, G. G.
Grosscup, G. C., Jr.
Knollmeyer, L. E.
Lohman, P. H.
Trinity Col. Lib.
Univ. of Vermont Lib.*

Middlebury

*Fife, H. M.
Middlebury Col. Lib.
Phalan, J. L.
Prentice, J. S.
Stratton, S. S.*

Montpelier

*Edmiston, H. H.
Limber, R. C.
Meredith, L. D.
Nat. Life Ins. Co. Lib.
Pond, A.
Vermont State Lib.*

Northfield

Landry, R. S.

Norwich

*Carter, W. A.
Lounsbury, R. H.
Norwich Univ. Lib.
Peisch, A. M.*

Poultney

Akerstrom, C. E.

Richmond

Heatherington, D. F.

St. Johnsbury
Goodrich, E. E.

Winooski Park
St. Michael's Col.

VIRGINIA

Alexandria

Allen, E. L.
Ball, R. M.
Bangs, R. B.
Barton, H. C.
Block, H.
Blum, R.
Rowman, D. O.
Brokaw, P. L.
Brooks, B. F.
Brown, P. S.
Browne, A. E.
Burhans, N. C.
Burnett, E. P.
Cherington, P. W.
Denison, E. F.
Dickens, P. D.
Dixon, R. C.
Edwards, C. D.
Gallahue, E. E.
Gilbert, M.
Henle, P.
Jacobs, G. R.
Jensen, C. P. N.
Johnson, G. G., Jr.
Katz, F.
Kerr, P.
Larsen, H. C.
Lowenstein, F.
Magnusson, L.
Miller, J. F.
Miller, P. L.
Mohn, K. B.
Nagel, A. W.
Nelson, R. W.
Oliver, R. W.
Patzig, R. E.
Pawley, F. R.
Peck, M.
Phillips, W. T.
Politte, R. Z.
Riley, D. C.
Ringo, M. K.
Ritz, P. M.
Ryder, O. B.
Scheider, C. F., III
Shaw, W. H.
Sherrard, A.
Sherrard, E. H.
Smith, T.
Spingarn, E. D. W.
Sullivan, C. M.
Tierney, J. L.
Wehrwein, C. F.
Woolley, H. B.

Annandale
Homer, W. M.

Arlington

Anderson, D. S.
Atkinson, L. J.
Atkinson, W. M.
Baker, J. A.
Bassie, V. L.
Bean, L. H.
Bennett, W. B.
Blackman, H. H.
Blake, A.
Bloom, M.
Blum, F. H.
Bonnell, E. T.
Bonnell, V. C.
Brodsky, N.
Brown, S. L.
Brunner, E., Jr.
Bryant, L. C.
Bullock, R. J.
Cain, L. F.
Coffman, R. H.
Costanzo, G. N.
Custard, H. L.
Dean, P. N.
Dessel, M. D.
Doyle, J. F., Jr.
Eakens, R. H. S.
Eby, S.
Ensley, G. W.
Evans, W. D.
Exter, J. E.
Faber, F. L.
Farioletti, M.
Feldstein, M. J.
Ferber, W. F.
Fetter, T. A.
Fischer, P. A.
Fisher, A. J.
Folk, O. H.
Frank, I.
Fritz, W. G.
Galbreath, C. E.
Gilbert, R. V.
Goldstein, S.
Golstein, H. T.
Gordon, N. N.
Green, P. M.
Gross, B. M.
Grove, E. W.
Harlan, C. L.
Hart, William T., 4306 N.
Fairfax Dr., Apt. 5
Hassell, E. W.
Hayden, B. R.
Hersey, A. B.
Honold, J. H.
Hooks, J. M.
Horn, D. R.
Irwin, H. S.
Johnson, S.

Johnson, W. S.
Kelly, E. W.
Knappen, L. S.
Kramer, C.
Kube, H. D.
La Fever, M. W.
Landay, D. M.
Lehrer, M.
Leighton, L.
Lerner, E. R.
Lerner, P. A.
Loewy, H.
Losee, G. C.
Lovass, L.
Lowery, D.
Mandel, B.
March, M. S.
Martin, M. E.
Martz, S. E.
Marquis, R. W.
Mason, J. E.
McBride, J. W.
McDiarmid, O. J.
Meyer, R.
Miller, H. P.
Morrison, L. A.
Mullenbach, P.
Okun, J. L.
Omohundro, E. H.
Osias, M. S.
Parsons, C. G.
Peel, F. W.
Persons, C. E.
Petee, J. C.
Pincus, J.
Piovia, F.
Pollard, G. M.
Price, R. C.
Ratzlaff, C. J.
Reedy, T. W.
Riley, H. E.
Ryan, F. W.
Sanderson, F. H.
Schepmoes, D. F.
Shepard, E. F.
Silverstrand, C. F.
Smith, P. F.
Stocking, C. A.
Terborgh, G. W.
Terrill, R. P.
Tyson, D.
Tyson, L. S.
Ulmer, M. J.
Umstott, H. D.
Vermeer, J.
Vernon, R.
Wandel, W. H.
Wardwell, C. A. R.
Warren, F. G.
Weinberg, E.
Winslow, E. M.
Witcover, H. W.
Yaffa, I.

Young, B. O.
Zempel, A.

Ashland
*Randolph-Macon Col., Wal-
ter Hines Page Lib.*

Blacksburg
Johns, V. O.
Miller, B. O.
Virginia Poly. Inst. Lib.

Bridgewater
Wright, C. C.

Charlottesville
Gee, W.
Hyde, D. C.
Kincaid, E. A.
McKinney, G. W., Jr.
Mikesell, R. F.
Seip, J. R.
Shay, R. P.
Starnes, G. T.
Thomas, L.
*Univ. of Virginia, Alderman
Lib.*
Vining, R.
Whitehill, A. M., Jr.
Wright, D. M.

East Falls Church
Solterer, J.

Emory
Emory and Henry Col. Lib.

Fairlington
Weiss, S.

Falls Church
Anderson, C. E.
Anderson, K. L.
Arnow, K.
Arnow, P.
Bostwick, D. C.
Coker, J. D.
Curtis, W. R.
Fisher, J. L.
Glaser, E.
Goldwasser, B. C.
Hanna, F. A.
Holthausen, D. M.
Jones, S.
Leven, M.
Lillaston, J. B.
Osterbind, C. C.
Rapkin, C.
Robinson, J. A.
Wein, H. H.
Weinfeld, W.

Farmville
State Teachers Col. Lib.

Ft. Eustis
McIlwain, B. A.

Fredericksburg
Dodd, J. H.
Sublette, M. H.

Goldvein
Pixley, R. A.

Hampden-Sydney
Hampden-Sydney Col. Lib.

Hampton
*Hampton Inst., Huntington
Lib.*

Harrisonburg
Madison, Col. Lib.

Herndon
Palmer, J. T.

Hollins
*Cooke Memorial Lib., Hollins
Col.*
Jackson, K. C.

Lexington
Griffith, E. C.
Hancock, G. D.
Howard, E. H.
Hutcheson, H. H.
Phillips, M. O.
Tucker, R. H.
Virginia Military Inst. Lib.
*Washington and Lee Univ.,
Cyrus Hall, McCormick
Lib.*

Lorton
Hart, S. K.

Lynchburg
Blood, A. K.
Lynchburg Col.
*Randolph-Macon Woman's
Col. Lib.*

Lynnhaven
Holm, E. E., Jr.

McLean
Carroll, M. R.
Horne, R. L.
Horowitz, D. L.
Scattergood, M.
Warburton, A. A.
Warburton, C. A.

New Alexandria
Bertrand, R.

Norfolk
*Armed Forces Staff Col., NS
Supply Officer
Col. of William and Mar-
Lib., Norfolk Div.*
*Col. of William and Mary, St
Helena Ext. Lib., Box 252
Berkley Sta.*
*Virginia State Col., Norfolk
Div., 812 Wood St.*

North Arlington
Jones, W. G.

Petersburg
*Branting, Briant F., 402 Dan-
ville Ave., Colonial Heights*
*Virginia State Col., Johnston
Memorial Lib.*

Richmond
Donnahoe, A. S.
*Fed. Res. Bank of Richmond
Lib., 9th and Franklin Sts*
Hudson, J. T., Jr.
Jones, D. L., Jr.
Lumpkin, R. P.
Pinchbeck, R. B.
*Richmond Pub. Lib., 101 E.
Franklin St.*
Thomas, H. P.
*Vet. Admin., Br. 4, Deputy
Admin., 900 N. Lombardy
St.*
Virginia State Lib.

Roanoke
Fishburn, J. P.

Sabot
Alvis, V. Q.

Salem
Poindexter, J. C.
*Roanoke Col., Bittle Memo-
rial Lib.*

Saluda
May, R. A.

Staunton
Black, A. G.
Mary Baldwin Col. Lib.,

Sweet Briar
Boone, G.
Sweet Briar Col. Lib.

University
Snively, T. R.

University of Richmond

Modlin, G. M.
Pierce, L. F.
Univ. of Richmond Lib.

Vienna

Koenig, H. J.
Lindeman, J.
McMurray, J. P.
Means, G. C.
Wickens, A. J.
Wickens, D. L.

Williamsburg

Col. of William and Mary Lib.
Corey, H. D.
Marsh, C. F.
Roberts, F. L.
Southworth, S. D.
Taylor, A. G.

WASHINGTON**Bellevue**

McGrath, W. H.

Bellingham

Western Washington Col. of Educa. Lib.

Cheney

Eastern Washington Col. of Educa. Lib.

College Place

Schneider, W. M.
Walla Walla Col. Lib.

Ellensburg

Central Washington Col. of Educa. Lib.
Hall, R. A.

Everett

Everett Pub. Lib., 2700 Hoyt Ave.

Lacey

St. Martin's Col. Lib.

Longview

Longview Pub. Lib.

Olympia

Washington State Lib., Temple of Justice

Parkland

Pacific Lutheran Col. Lib.

Pullman

Buchanan, M. T.

Campbell, C. A.
Compton, W. M.
Guthrie, J. A.
Haines, D. R.

Jacobs, C. D.
Jenkins, L. A.
Lee, M. W.
Nelson, J. C.
Paschke, J. W.
Potter, A. N.
State Col. of Washington Lib., Acquisitions Dept., Serials Sec.
Thayer, R. I.
Tousley, R. D.
Yoder, F. R.

Renton

Edminster, Robert R., A 3 Cedar River Park

Seattle

Anderson, R. B.
Buechel, H. T.
Butterbaugh, G. I.
Cannon, A. M.
Cheley, W. F.
Dance, M. E.
Demmery, J.
Doleshy, F.
Engle, N. H.
Gillingham, J. B.
Gregory, H. E.
Hald, E. C.
Hall, J. K.
Hopkins, W. S.
Huber, J. R.
Kane, J. S.
Kerry, A. S., Jr.
Lorig, A. N.
Mathy, L.
Merritt, O. W., Seattle Post Intelligencer, P.O. Box 1909
Metzger, J.
Mund, V. A.
Nat. Bank of Commerce, 1100 2nd Ave.
Porter, R. L.
Preston, H. H.
Seattle Col. Lib., 900 Broadway
Seattle Pacific Col. Lib., 3307 Third Ave. W.
Seattle Pub. Lib., Period. Dept., 4th and Madison Sts.
Simpson, F. R. O.
Skinner, M. M.
Univ. of Washington Lib.
Vet. Admin., Br. 11, Exchange Bldg.
Wells, P. J.
Wheeler, B. O.

Williams, E.
Worcester, D. A., Jr.
Wright, L. A.

Spokane

Carroll, C.
Guthrie, Wayne E., 320 S. Cannon
Spokane Pub. Lib.
Whitworth Col. Lib.

Tacoma

Col. of Puget Sound Lib.
Snider, H. W.
Tacoma Pub. Lib., Tacoma Ave.

Vancouver

Clark Col., Fourth Plain Rd.

Veradale

Pettibone, W.

Walla Walla

Chambers, E. J.
Pub. Lib.
Whitman Col. Lib.

Washougal

Akerman, C.

WEST VIRGINIA**Athens**

Concord Col. Lib.

Bethany

Bethany Col. Lib.
Kyler, R. H.

Buckhannon

Lockard, E. K.
West Virginia Wesleyan Col. Lib.

Charleston

Kanawha County Pub. Lib.
Morris Harvey Col. Lib.

Elkins

Davis and Elkins Col. Lib.

Fairmont

Bell, W. J.
Fairmont State Col. Lib.
Hand, G. H.

Glenville

Glenville State Teachers Col.

Huntington
Marshall Col., James E. Morrow Lib.
 Taylor, W. H.

Institute
West Virginia State Col. Lib.

Morgantown
 Coleman, R. W.
 Dadisman, A. J.
 Fishman, B. G.
 Fishman, L.
 Perkey, J. B., Jr.
 Roberts, E. O.
 Shilland, P. D.
 Tower, R. B.
 Vickers, E. H.
West Virginia Univ. Lib.

New Martinsville
 Simons, A. M.
 Simons, M. W.

WISCONSIN

Appleton
 Bober, M. M.
Lawrence Col. Lib.
 Matthews, R. S.
 McConagha, W. A.

Badger
 Elperin, R. H.
 Grossman, M. C.
 Kahn, L. B.
 Mesmer, T. C.

Beloit
Beloit Col. Lib.

Dodgeville
 Temby, J. L.

Eau Claire
State Teachers Col.
 Wallin, J. R.

Janesville
McJoynt, T. L., Janesville Cotton Co., 220 N. Franklin St.

Kenosha
 Bingham, V. A.
Gilbert M. Simmons Lib., Library Park

La Crosse
State Teachers Col. Lib.

Madison
 Alexander, C. K.

Anderson, G. K.
 Atkinson, T. R.
 Axford, H. M.
 Bakken, H. H.
 Bowers, R. S.
 Brensike, V. J.
 Brown, R. L.
 Butler, A.
 Carr, H. N.
 Center, C. C.
 Earley, J. S.
 Ellenbogen, J.
 Ellsworth, P. T.
 Elwell, F. H.
 First, R. K.
 Gary, H. C.
 Gaumnitz, E. A.
 Genovese, F. C.
 Gerdes, V.
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 Goodman, O. R.
 Graner, F. M.
 Groves, H. M.
 Haynes, L. W.
 Hibbard, B. H.
 Hobson, A.
 Howard, G. E.
 Howard, W. M.
 Kessler, A.
 Kiekhofer, W. H.
Legislative Ref. Lib., State Capitol
 Lescoghier, D. D.
 Levinson, D.
 Marx, R. L.
 Mersky, R. M.
 Miller, J. L.
 Mire, J.
 Morgan, T.
 Morton, W. A.
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 Parsons, K. H.
 Perlman, M.
 Perlman, S.
 Peterson, M. S.
 Pickart, D. M.
 Plous, H. J.
 Ratcliff, R. U.
 Raushenbush, P. A.
 Ritter, C. F.
 Ritter, L. S.
 Roesler, T. W.
 Saucerman, R. C.
 Schur, L. M.
 Shabana, Z. M.
 Struck, S. H.
 Suagee, F. F.
 Trumbower, H. R.
 Ulriksson, V.
 Wilcox, W. W.
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 Wilkie, J. A.
 Wilmot, W. V., Jr.
 Witte, E. E.

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 Yang, S. C.
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Stout Inst. Lib.
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 Divine, T. F.
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 Seeboth, D.
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 Tandy, W. L.
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 West, R. J.

Oshkosh
 Bray, C. P.
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*Ripon Col., Lane Lib.
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*Bloom, A.
State Teachers Col. Lib.*

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Stevens Point

State Teachers Col.

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Northwestern Col. Faculty

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Carroll Col. Lib.
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Wauwatosa

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Germanistic Society Gift,
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Oper. Freiburg, F Zone,
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Info. Center Stuttgart,
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154
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ent FEC, GHQ Advance P
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Univ. of New Brunswick,
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McMaster Univ. Lib., West-
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Reilly, E. E.

Univ. of Western Ontario,
190 St. James St.

Niagara-on-the-Lake

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Barber, C. L.
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Carleton Col., 268 First Ave.
Clark, W. C.
Co-operative Commonwealth
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calfe St.
Dept. of Agric., Main Lib.,
Confed. Bldg.
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Toronto

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Canadian Life Assurance Co.
Lib., 330 University Ave.
Canadian Tax Found., 4 Carl-
ton St.
Cassidy, H. M.
Confederation Life Asso., 12
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Montreal

Adams, E. G.
Bell Tel. Co. of Canada,
Statis., Econ. Sec.
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rue St. Denis
Beach, E. F.
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ton Ave.
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Dehem, R.
Dekock, J.
Ecole des Hautes Etudes
Commerciales, 535 Viger
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Franklin, H. F.
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Hobbes, V. G.
Howenstine, E. J., Jr.
Int. Civil Aviation Org., Rm.
931, Dominion Sq. Bldg.
James, F. C.
Lermer, A.
Marsh, D. B.
McGill Univ. Lib., 3459 Mc-
Tavish St.

McGill Univ., School of Com.
Lib., Purvis Hall, 1020 Pine
Ave., W.
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Pfeffer, I.
Riches, E. J.
Royal Bank of Canada Lib.,
Head Office
Sun Life Assurance Co. of
Canada, Ref. Lib.
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Y.M.C.A., 1441 Drumond
St.
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Pazos C., Gerardo

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Alvarez, J.
Puente-Duany, R. B.
Instituto Cultural Cubano
Norteamericano, Passo de
Martí 112
Kates, José, Justiz No. 19
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López-Fresquet, R.
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Comision Nacional de Valo-
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Gomez, A. M.
Nacional Financiera, S. A.,
Depto. de Estudios Finan-
ceros, Apartado No. 353
Radvanyi, L.
Saenz, Josue, Sierra Tarahu-
mara 805, Lomas
Secretaria de la Economia
Nacional, Dirreccion Ge-
neral de Administracion,
Ave. Republica Argentina
12
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cantil de Monterrey, Apar-
tado 148

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795
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conquista 336
Enrico, R. A.
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Pescuma, M.
Segre, Mario, Florida 248
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Siam, di Tella, Ltda. (Propaganda), Avda. de Mayo 1302
Union Industrial Argentina, Avda. de Mayo 1157
Vivas, J. B.

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Merino, F. G.

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Lima, José de Queiros, Rua Buenos Aires 126
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Guimaraes, J. Nunes, Avenida Tijuca 1.142
Instituto de Eletrotecnica, Ed. Central do Brasil 20
Mortara, G.

Ribeiro Filho, J. S.
Servico Informacao Agricola, Ministerio da Agricultura, Caixa Postal 1523

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Escola Superior de Agricultura Luis Queiroz, A/C Libreria Civilizacao Brasileira, Caixa Postal 199-B
Inspectoria de Servicos Publicos, Secretaria Publicas, Cx. Postal 189B
Instituto de Administracao, Rua Dr. Vila Nova, 288
Kafka, A.
Piza, Clovis, Estacao Experimental de Limeira, Cascaltho Via Cordeiropolis
Privitera, Joseph F., Uniao Cultural Brasil Estados Unidos, Rua Santo Antonio 487
Ribeiro, Samuel, Praca Ramos de Azevedo 209
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Guarello, Angel, Casilla 2809

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Subercaseaux, G.

COLOMBIA**Bogotá**

Amer. Embassy, Culinst Echavarria, Hernan, Aereo No. 3651
Mendez, J. M.
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Posada F., A. J.
Puerto, Antonio, P.O. Box 331
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PARAGUAY**Asuncion**

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Beltran, P. G.
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Superintendencia de Bancos
Sociedad Nacional Agraria, Apartado 350
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URUGUAY**Montevideo**

Balsa, Hector, Rambla Franklin D. Roosevelt 344
Belgrano, Gervasio de Posadas, Rincon 454, Piso 3, Esc. 319
Biblioteca Artigas-Washington, c/o Amer. Embassy, Agraciada 1458
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Casa A. Barreiro y Ramos, S.A., 25 de Mayo
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*Comercio y Produccion,
1400 Misiones, Edificio de
la Bolsa de Comercio
Rimex, Casilla de Correo 272
Vallarino, Juan Carlos, Av.
España 2761*

VENEZUELA**Caracas**

*Amer. Int. Asso., Apt. 1944
Banco Central de Venezuela
Biblioteca Nacional*

Hatley, G. A.
*Sanchez-Covisa, Joaquin,
Conde a Pinango No. 9
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General Jacques
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et des Classes Moyennes, 32
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liotheque Centrale, rue de la
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ice d'Études, 14 rue de la Loi
Ministère du Combustible et
de l'Énergie, 59 rue de la
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Dolezel, K.

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*Blazej, Z.
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Lib. of State Statis. Office of
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Orbis, P. O. B. 240
Prochazka, Milos, Kaprova 3
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kope 23*

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shall Lib. of Econ., Down-
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British Lib. of Polit. and
Econ. Sci., London School,
Houghton St., Aldwych

Coase, R. H.
Dalal, R. D.
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Fehmers, J. M.
Hawtrey, R. G.
Hayek, F. A.
H. M. Treas., Great George
St.

Inst. of Bankers, 11 Birchin
Lane

Karpi, J., Polish Embassy,
47 Portland Pl.

Kemp, W. B.
Kovacs, L.

Layton, Sir W. T.
Nat. Coal Bd. Lib., Hobart
House, Grosvenor Pl.

Nat. Inst. of Econ. and Soc.
Res., 2 Dean Trench St.,
Westminster

Netherlands Embassy, Minis-
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ford House, 117 Park St.

Nutt, David, 212 Shaftesbury
Ave.

Polish Lib. in London, 1
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sions, Buckingham Palace
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Robbins, I. C.

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Sherrington, C. E. R.

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Statist. and Intelligence Br.,
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Wing, Somerset House
Strand

Stern, E. H.

B. F. Stevens and Brown,
New Ruskin House, 28-30
Little Russell St.

Ungphakorn, P., 10 Engadine
St., Southfields

U. S. Info. Lib., Amer. Em-
bassy

Wai, U. T.

Weaver, F.

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Crescent, Golders Green

Williams, J. M., 24 Gloucester
Pl.

Yamey, B. S., London School
of Econ., Houghton St.,
Aldwych

Manchester

Henderson, A., Econ. Dept.,
The Univ.

Lewis, W. A., Univ. of Man-
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Victoria Univ.

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Frankel, S. H.

Meier, G. M.
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West Drayton
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K. K.

Finska Kabelfabriken A/B,
Batsmansgatan 29-31

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Kirkkokatu 14

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Gosudarstvennaja Biblioteka
S.S.S.R. im. Lenina, Ul.
Kalina, 3
Gurvitch, E. I., Spiridonovka,
d. 26, kv. 17
Institut Ekonomiki, Akad.
Nauk, Volkhonka 14
Library Glavnyj, Pochtamt,
Pochtovyi Jaschik 886
Literaturnaja Gazeta, Ulica
25 Oktjabria 19
Ministerstvo Materialnykh
Reservov, B. Cherkasskij
per. 6

*Ministerstvo Materialnykh
Reservov, Tretjakovskij
proezd 2*

*Nauchnaja Biblioteka, Minis-
terstva Finansov, Ul. Kuj-
bischeva, 9*

*Tekhhbiblioteka Gosplana
U.S.S.R., Okhotnij rjad, 3*

*V. C. S. P. S., Kaluzhskoje
Shosse 66*

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*Fund. Bib-ka Akad. Nauk,
Kommunalnaja 4*

Tallin
*Biblioteka Akad. Nauk, Sa-
kala 35*

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*Biblioteka Akad. Nauk, Ul.
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*Biblioteka Akademii Nauk,
Ul. Dzerzhinskogo 8*

Vilnius
*Biblioteka Akademii Nauk,
Zigimanto 2/8*

Africa

EGYPT

Alexandria
*Farouk I Univ., Faculty of
Com., Laurens Ramleh*

Cairo
*British Middle East Office, 10
Sharia Tolumbat
Conn, H. D.
Nat. Bank of Egypt*

GOLD COAST

Accra
Bolton, E.
Achimota-Accra
*Diakin, Charles, Achimota
Col., P. O. Box 4*

LIBERIA

Monrovia
Amer. Legation

MOROCCO

Rabat
Amer. Consulate

NIGERIA

Lagos
*Government Economist, Sec-
retariat
Tech. Inst., The Principal,
Yaba*

SOUTHERN RHODESIA

Salisbury
*Pub. Health Dept., Chief
Health Officer*

UNION OF SOUTH AFRICA

Bloemfontein
*Univ. Col. of Orange Free
State Lib.*

Capetown
*Commerce and Law Lib.,
Hiddingh Hall, Orange St.
Gardens
D'Oliveira, G., 42 Arnold St.
Observatory Lib. of Parlia-
ment
Standard Bank of South
Africa, Ltd., Commercial
Serv. Dept., P. O. Box 40
U. S. Info. Lib., Amer. Con-
sulate General*

Durban
*Allan, Ian, c/o Dept. of Com.,
Natal Univ. Col., P. O. Box
1525
Kelly, T. H.
Natal Univ. Col. Lib.
Randall, R. J.
Stent, G. E.*

Grahamstown
Rhodes Univ. Col. Lib.

Johannesburg
*I. C. Ashabhai and Co., 35
Commissioner St.
Coetzer, W. B., 503 Sanlam
Bldg., Loveday St.
Federale Volksbeleggings
Reperk, Postbus 2911
Johannesburg Chamber of
Com., Box 687
Johannesburg Pub. Lib.,
Market Sq.*

*Nat. Anti-Waste and Con-
servation Organization,
Howard House, 7th Fl.,
Loveday and Main Sts.
Reddingsdaadbond, P. O. Box
7714
Richards, C. S.
Samuels, L. H., Univ. of
Witwatersrand, Milner
Park
U. S. Info. Lib., Amer. Con-
sulate General
Univ. of Witwatersrand,
Main Lib., Milner Park*

Port Elizabeth
*Midland Chamber of Indus-
tries, Secy., P. O. Box 3051*

Pretoria
*Arndt, E. H. D.
Chief, Div. of Econ. and
Markets, Dept. of Agric.
and Forestry
Middleton, J. J. I.
Nutrition Bur., Dept. of Pub.
Health, P. O. Box 386
Secy. for Com. and Ind.,
Impala House
Soc. and Econ. Planning
Comm. Secy., Bourke Trust
Bldg., Rm. 20, Andries St.
South African Res. Bank,
Head Office
Univ. of Pretoria Lib.
Univ. of South Africa, Div.
of External Studies, Box
392*

Stellenbosch
Univ. Lib.

ZANZIBAR
Zanzibar
Bartlett, C. A.

Australasia and the Pacific Islands

AUSTRALIA

Adelaide

Pub. Lib. of South Australia,
P. O. Box 386 A
Univ. of Adelaide, Barr
Smith Lib.

Alexandria

Coghlan, John, Eustan Rd.

Armidale

New England Univ. Col.,
Secy.

Ashfield

Laird, Colin S., 15 Victoria
Sq.

Brisbane

Bur. of Ind. Lib., Treasury
Bldg.
Parliamentary Lib., George
St.
Richardson, J. ff.

Canberra

Canberra Univ., Col. Regis-
trar
Commonwealth Parliament
Lib.
Ministry of Post War Re-
construction, P. O. Box 168
Prime Minister's Dept., Dept.
of External Affairs, Secy.

Glenmorgan

Gordon, D. M., Myall Park

Kensington

Barr, J. R., 49 Balfour Rd.

Melbourne

Commercial Bank of Austra-
lia, Ltd., 335 Collins St.
Higgins, B. H.
Inst. of Pub. Affairs, Carlow
House, 289 Flinders Lane
State Parliamentary Lib.
Univ. of Melbourne, Central
Lib.

Merrylands

McMartin, A.

Nedlands

Univ. of Western Australia
Lib.

Perth

Mauldon, F. R. E.

Smiths Gully Road

Riley, John R., c/o Post Of-
fice

Sydney

Bank of New South Wales,
Econ. Dept., P. O. Box
2722C, Gen. Post Office
Bur. of Statis. and Econ. Lib.,
61 Hunter St.
Butlin, S. J.
Commonwealth Bank of Aus-
tralia
New South Wales Pub. Lib.,
Principal Lib'n
Parliamentary Lib., Mac-
Quarrie St.
U. S. Info. Lib., Amer. Con-
sulate General
Univ. of Sydney, Fisher Lib.

NEW ZEALAND

Auckland

Auckland Univ. Col., Regis-
trar

Dunedin

Otago Univ. Lib.

Motueka

Jeffery, S.

Palmerston North

Massey Agric. Col. Lib.

Wellington

Dept. of Ind. and Com., P. O.
Box 3025
General Assembly Lib.
Nat. Lib. Serv., Dir., Private
Bag
Prime Minister's Dept., Info.
Secy., Parliament Bldgs.
U. S. Info. Lib., Amer. Lega-
tion
Victoria Univ. Col.
Ward, William F. L., Reserve
Bank of New Zealand

TASMANIA

Hobart

Univ. of Tasmania Lib.

Launceston

Beecroft, R. M., 149 Charles
St.

SUPPLEMENTARY INFORMATION AND STATISTICAL SUMMARIES

OFFICERS OF THE ASSOCIATION

1886-1948

<i>Year</i>	<i>President</i>	<i>Vice-Presidents</i>	<i>Secretary</i>	<i>Treasurer</i>	<i>Council</i>
1886	Francis A. Walker	Henry C. Adams Edmund J. James John B. Clark	Richard T. Ely	Edwin R. A. Seligman	Members
1887	Francis A. Walker	Henry C. Adams Edmund J. James John B. Clark	Richard T. Ely	Edwin R. A. Seligman	of the Council
1888	Francis A. Walker	Henry C. Adams Edmund J. James John B. Clark	Richard T. Ely	Edwin R. A. Seligman	were quite numerous.
1889	Francis A. Walker	Henry C. Adams Edmund J. James John B. Clark	Richard T. Ely	Edwin R. A. Seligman	For list, refer to
1890	Francis A. Walker	Henry C. Adams Edmund J. James John B. Clark	Richard T. Ely	Edwin R. A. Seligman	contem- porary publica- tions.
1891	Francis A. Walker	Charles F. Dunbar William W. Folwell Carroll D. Wright	Richard T. Ely	Frederick B. Hawley	
1892	Francis A. Walker	Charles F. Dunbar William W. Folwell Carroll D. Wright	Richard T. Ely	Frederick B. Hawley	
1893	Charles F. Dunbar	Richard T. Ely Henry W. Farnam Simon N. Patten	Edward A. Ross	Frederick B. Hawley	
1894	John B. Clark	Simon N. Patten Richard T. Ely Richmond Mayo-Smith	Jeremiah W. Jenks	Frederick B. Hawley	

<i>Year</i>	<i>President</i>	<i>Vice-Presidents</i>	<i>Secretary</i>	<i>Treasurer</i>	<i>Council</i>
1895	John B. Clark	James H. Canfield Arthur T. Hadley George W. Knight	Jeremiah W. Jenks	Frederick B. Hawley	Members of the Council were quite numerous. For list, refer to contem- porary publica- tions.
1896	Henry C. Adams	Franklin H. Giddings Elgin R. L. Gould Roland P. Falkner	Jeremiah W. Jenks	Charles H. Hull	
1897	Henry C. Adams	Franklin H. Giddings Elgin R. L. Gould Roland P. Falkner	Walter F. Willcox	Charles H. Hull	
1898	Arthur T. Hadley	John H. Gray Henry B. Gardner Winthrop M. Daniels	Walter F. Willcox	Charles H. Hull	
1899	Arthur T. Hadley	Stuart Wood David Kinley William Z. Ripley	Walter F. Willcox	Charles H. Hull	
1900	Richard T. Ely	Stuart Wood David Kinley William Z. Ripley	<i>Secretary-Treasurer</i> Charles H. Hull		
1901	Richard T. Ely	Theodore Marburg Frederick M. Taylor John C. Schwab	Charles H. Hull (to June, 1901)		
1902	Edwin R. A. Seligman	Theodore Marburg Frederick M. Taylor John C. Schwab	Frank A. Fetter (from June, 1901)		
1903	Edwin R. A. Seligman	William W. Folwell Lester F. Ward Frederick W. Moore	Frank A. Fetter		<i>Elected Members of Executive Committee</i> Charles J. Bullock Winthrop M. Daniels William Z. Ripley

<i>Year</i>	<i>President</i>	<i>Vice-Presidents</i>	<i>Secretary-Treasurer</i>	<i>Executive Committee</i>
1904	Frank W. Taussig	Irving Fisher John H. Gray John G. Brooks	Frank A. Fetter	Winthrop M. Daniels Henry B. Gardner William Z. Ripley
1905	Frank W. Taussig	Horace White Martin C. Knapp Charles R. Crane	Frank A. Fetter	Winthrop M. Daniels Henry B. Gardner Balthasar H. Meyer
1906	Jeremiah W. Jenks	Charles S. Fairfield S. N. D. North Carl C. Plehn	Frank A. Fetter	Frank A. Fetter Balthasar H. Meyer Henry C. Emery John H. Gray Frank H. Dixon Henry R. Seager
1907	Jeremiah W. Jenks	Davis R. Dewey Charles P. Neill Charles B. Fillebrown	Winthrop M. Daniels	Frank H. Dixon Henry C. Emery Frank A. Fetter John H. Gray Balthasar H. Meyer Henry R. Seager
1908	Simon N. Patten	Davis R. Dewey James B. Dill John M. Glenn	Winthrop M. Daniels	Frank H. Dixon Henry C. Emery Frank A. Fetter John H. Gray Balthasar H. Meyer Henry R. Seager
1909	Davis R. Dewey	Willard Fisher Fabian Franklin Frederick B. Hawley	Thomas N. Carver	Frank H. Dixon Henry C. Emery Frank A. Fetter John H. Gray Thomas S. Adams Henry R. Seager
1910	Edmund J. James	Frank L. McVey Herbert J. Davenport Alvin S. Johnson	Thomas N. Carver	Frank A. Fetter Thomas S. Adams Henry R. Seager Henry C. Emery John H. Gray Frank H. Dixon

<i>Year</i>	<i>President</i>	<i>Vice-Presidents</i>	<i>Secretary-Treasurer</i>	<i>Elected Members of Executive Committee</i>
1911	Henry W. Farnam	Frederick N. Judson Joseph F. Johnson Balthasar H. Meyer	Thomas N. Carver	Frank A. Fetter Thomas S. Adams Henry R. Seager Frank H. Dixon Winthrop M. Daniels Leon C. Marshall
1912	Frank A. Fetter	Theodore E. Burton John R. Commons E. Dana Durand	Thomas N. Carver	Frank H. Dixon Henry R. Seager George E. Barnett Leon C. Marshall Roger W. Babson Roswell C. McCrea
1913	David Kinley	John H. Gray Charles W. Macfarlane Willard E. Hotchkiss	Thomas N. Carver	George E. Barnett Leon C. Marshall Roger W. Babson Roswell C. McCrea Matthew B. Hammond William A. Scott
1914	John H. Gray	David F. Houston Thomas N. Carver Walter F. Willcox	Allyn A. Young	Roger W. Babson Roswell C. McCrea Matthew B. Hammond William A. Scott Carl C. Plehn Leon C. Marshall
1915	Walter F. Willcox	Thomas N. Carver Balthasar H. Meyer Jacob H. Hollander	Allyn A. Young	Roger W. Babson Leon C. Marshall Matthew B. Hammond Wesley C. Mitchell Carl C. Plehn William A. Scott
1916	Thomas N. Carver	Thomas S. Adams Matthew B. Hammond	Allyn A. Young	Leon C. Marshall Roger W. Babson Fred R. Fairchild Carl C. Plehn Wesley C. Mitchell William H. Glasson

<i>Year</i>	<i>President</i>	<i>Vice-Presidents</i>	<i>Secretary-Treasurer</i>	<i>Elected Members of Executive Committee</i>
1917	John R. Commons	James E. LeRossignol Murray S. Wildman George R. Wicker	Allyn A. Young	Roger W. Babson Fred R. Fairchild William F. Gephart Wesley C. Mitchell William H. Glasson Leon C. Marshall
1918	Irving Fisher	Frank A. Vanderlip Edith Abbott Ernest L. Bogart	Allyn A. Young	Fred R. Fairchild William F. Gephart Henry B. Gardner William H. Glasson Leon C. Marshall William Z. Ripley
1919	Henry B. Gardner	George E. Roberts Susan M. Kingsbury Henry R. Hatfield	Allyn A. Young	William F. Gephart William Z. Ripley Maurice H. Robinson Leon C. Marshall Frederick S. Deibler Henry C. Taylor
1920	Herbert J. Davenport	James A. Field Thornton Cooke	Allyn A. Young	William Z. Ripley Henry C. Taylor Richard T. Ely Frederick S. Deibler Maurice H. Robinson Harley L. Lutz
1921	Jacob H. Hollander	Allyn A. Young Robert S. Brookings	Ray B. Westerfield	Henry C. Taylor Richard T. Ely Harry A. Millis Maurice H. Robinson Harley L. Lutz Ernest M. Patterson
1922	Henry R. Seager	Walker D. Hines Thomas W. Page	Ray B. Westerfield	Richard T. Ely Harry A. Millis Henry C. Taylor Matthew B. Hammond Harley L. Lutz Ernest M. Patterson

<i>Year</i>	<i>President</i>	<i>Vice-Presidents</i>	<i>Secretary-Treasurer</i>	<i>Counsel</i>	<i>Elected Members of Executive Committee</i>
1923	Carl C. Plehn	Fred R. Fairchild Bernard M. Baruch	Ray B. Westerfield	Edward A. Harriman	Harry A. Millis, Ernest M. Patterson Matthew B. Hammond Henry C. Taylor Richard T. Ely Thomas W. Page
1924	Wesley C. Mitchell	Edmund E. Day Henry S. Dennison	Ray B. Westerfield	Edward A. Harriman	Matthew B. Hammond Henry C. Taylor Richard T. Ely Thomas W. Page Glover D. Hancock Harold L. Reed
1925	Allyn A. Young	Owen D. Young Eliot Jones	Ray B. Westerfield	Edward A. Harriman	Edmund E. Day William H. Kiekhofer Richard T. Ely Thomas W. Page Glover D. Hancock Harold L. Reed
1926	Edwin W. Kemmerer	Benjamin Strong Ira B. Cross	Frederick S. Deibler	Edward A. Harriman	Edmund E. Day William H. Kiekhofer Richard T. Ely Clyde O. Ruggles Glover D. Hancock Harold L. Reed
1927	Thomas S. Adams	Sam A. Lewisohn Frank H. Dixon	Frederick S. Deibler	Edward A. Harriman	Fred R. Fairchild George W. Dowrie Richard T. Ely Clyde O. Ruggles Edmund E. Day William H. Kiekhofer
1928	Fred M. Taylor	Frank L. McVey Jessica B. Peixotto	Frederick S. Deibler	Edward A. Harriman	Richard T. Ely Clyde O. Ruggles Fred R. Fairchild George W. Dowrie William H. Kiekhofer Edmund E. Day

<i>Year</i>	<i>President</i>	<i>Vice-Presidents</i>	<i>Secretary-Treasurer</i>	<i>Counsel</i>	<i>Elected members of Executive Committee</i>
1929	Edwin F. Gay	Winthrop M. Daniels Waddill Catchings	Frederick S. Deibler	John E. Walker	Fred R. Fairchild George W. Dowrie William H. Kiekhofer Edmund E. Day Richard T. Ely Ernest L. Bogart
1930	Matthew B. Hammond	Balthasar H. Meyer George O. May	Frederick S. Deibler	John E. Walker	William H. Kiekhofer Ernest L. Bogart Joseph H. Willits Edmund E. Day Richard T. Ely Stuart Daggett
1931	Ernest L. Bogart	Edmund E. Day Eliot Jones	Frederick S. Deibler	John E. Walker	Jacob Viner Richard T. Ely Joseph H. Willits Stuart Daggett Leo Wolman Broadus Mitchell
1932	George E. Barnett	Benjamin M. Anderson, Jr. Ralph E. Heilman	Frederick S. Deibler	John E. Walker	Joseph H. Willits Stuart Daggett Leo Wolman Broadus Mitchell Robert H. Tucker John Ise
1933	William Z. Ripley	Walter W. Stewart Abbott P. Usher	Frederick S. Deibler	John E. Walker	Leo Wolman Broadus Mitchell Robert H. Tucker John Ise David A. McCabe Stuart Daggett
1934	Harry A. Millis	Fred R. Fairchild Leonard P. Ayres	Frederick S. Deibler	John E. Walker	Robert H. Tucker John Ise David A. McCabe Stuart Daggett James C. Bonbright John H. Williams

<i>Year</i>	<i>President</i>	<i>Vice-Presidents</i>	<i>Secretary-Treasurer</i>	<i>Counsel</i>	<i>Elected Members of Executive Committee</i>
1935	John M. Clark	Frank H. Knight Willard L. Thorp	Frederick S. Deibler	John E. Walker	David A. McCabe Stuart Daggett James C. Bonbright John H. Williams Walton H. Hamilton Broadus Mitchell
1936	Alvin S. Johnson	Ernest M. Patterson Albert B. Wolfe	James Washington Bell	John E. Walker	James C. Bonbright John H. Williams Walton H. Hamilton Broadus Mitchell Robert M. Haig Alvin H. Hansen
1937	Oliver M. W. Sprague	Alvin H. Hansen Sumner H. Slichter	James Washington Bell	John E. Walker	Walton H. Hamilton Broadus Mitchell Robert M. Haig Harry G. Brown Carter Goodrich Frank D. Graham
1938	Alvin H. Hansen	Frederic B. Garver Frederick C. Mills	James Washington Bell	John E. Walker	Robert M. Haig Harry G. Brown Carter Goodrich Frank D. Graham Benjamin M. Anderson, Jr. Mabel Newcomer
1939	Jacob Viner	John H. William Paul H. Douglas	James Washington Bell	John E. Walker	Carter Goodrich Frank D. Graham Benjamin M. Anderson, Jr. Mabel Newcomer Paul T. Homan Ray B. Westerfield

<i>Year</i>	<i>President</i>	<i>Vice-Presidents</i>	<i>Secretary-Treasurer</i>	<i>Counsel</i>	<i>Elected Members of Executive Committee</i>
1940	Frederick C. Mills	James W. Angell Calvin B. Hoover	James Washington Bell	John E. Walker	Benjamin M. Anderson, Jr. Mabel Newcomer Paul T. Homan Ray B. Westerfield J. Douglas Brown George W. Stocking
1941	Sumner H. Slichter	James C. Bonbright Walton H. Hamilton	James Washington Bell	John E. Walker	Norman S. B. Gras Ray B. Westerfield J. Douglas Brown George W. Stocking Stacy May Edwin E. Witte
1942	Edwin G. Nourse	Frederic B. Garver Frank D. Graham	James Washington Bell	John E. Walker	J. Douglas Brown George W. Stocking Stacy May Edwin E. Witte William L. Crum Leonard L. Watkins
1943	Albert B. Wolfe	William M. Leiserson Myron W. Watkins	James Washington Bell	John E. Walker	Stacy May Edwin E. Witte William L. Crum Leonard L. Watkins Corwin D. Edwards Carl S. Shoup
1944	Joseph S. Davis	Edward H. Chamberlin Charles O. Hardy	James Washington Bell	John E. Walker	William L. Crum Leonard L. Watkins Corwin D. Edwards Carl S. Shoup Frank W. Fetter Theodore W. Schultz

<i>Year</i>	<i>President</i>	<i>Vice-Presidents</i>	<i>Secretary-Treasurer</i>
1945	I. L. Sharfman	Harold M. Groves Amos E. Taylor	James Washington Bell
1946	E. A. Goldenweiser	Carter Goodrich Simon S. Kuznets	James Washington Bell
1947	Paul H. Douglas	John Ise Mabel Newcomer	James Washington Bell
1948	Joseph A. Schumpeter	Morris A. Copeland Simeon E. Leland	James Washington Bell

NOMINATING COMMITTEES

ROSTER OF MEMBERSHIP

1934-48

- | | | | | | |
|-----|---|------|---|------|---|
| 934 | W. F. Willcox, Chmn.
J. S. Davis
Isador Lubin
E. T. Miller
S. Perlman
R. B. Westerfield | 1939 | A. H. Hansen, Chmn.
A. R. Burns
F. S. Deibler
R. D. Calkins
C. O. Hardy
T. R. Snively | 1944 | E. G. Nourse, Chmn.
N. S. Buchanan
D. H. Wallace
A. R. Upgren
J. V. Van Sickle
A. J. Wickens |
| 935 | E. F. Gay, Chmn.
Eliot Jones
G. D. Hancock
E. G. Nourse
R. C. McCrea
H. D. Gideonse | 1940 | J. M. Clark, Chmn.
W. C. Clark
E. J. Hamilton
C. D. Edwards
H. M. Groves
J. P. Young | 1945 | J. D. Brown, Chmn.
Milton Gilbert
B. F. Haley
B. W. Lewis
Mabel Newcomer
G. S. Stocking |
| 936 | G. E. Barnett, Chmn.
C. A. Phillips
E. W. Zimmermann
I. L. Sharfman
I. B. Cross | 1941 | A. B. Wolfe, Chmn.
C. R. Whittlesey
C. F. Remer
S. E. Leland
J. B. Woosley
H. S. Ellis | 1946 | C. O. Hardy, Chmn.
J. F. Dewhurst
J. S. Davis
D. M. Wright
O. C. Lockhart
M. B. Northrop |
| 937 | E. L. Bogart, Chmn.
W. A. Brown
R. T. Bye
H. A. E. Chandler
I. L. Sharfman
A. W. Marget | 1942 | F. C. Mills, Chmn.
C. E. Griffin
John Ise
D. M. Halley
W. A. Brown, Jr.
G. W. Terborgh
M. A. Copeland | 1947 | I. L. Sharfman,
Chmn.
R. P. Brooks
R. D. Calkins
W. B. Catlin
R. S. Howey
F. M. Williams |
| 938 | A. S. Johnson, Chmn.
R. B. Westerfield
J. W. Angell
C. B. Hoover
F. D. Graham
E. E. Witte
B. F. Haley | 1943 | S. H. Slichter, Chmn.
P. M. O'Leary
R. W. Elsasser
S. Bell
R. A. Gordon
L. H. Seltzer | 1948 | F. B. Garver, Chmn.
Woodlief Thomas
E. S. Mason
Holbrook Working
Hazel Kyrk
V. W. Bladen |

ANNUAL MEETINGS*

LOCAL ARRANGEMENTS

Year	Place	Local Arrangements Chairman or Representative
1910	St. Louis, Missouri	
1911	Washington, D.C.	
1912	Boston, Massachusetts	
1913	Minneapolis, Minnesota	
1914	Princeton, New Jersey	
1915	Washington, D.C. (Also in San Francisco, California)	
1916	Columbus, Ohio	
1917	Philadelphia, Pennsylvania	
1918	Richmond, Virginia	
1919	Chicago, Illinois	
1920	Atlantic City, New Jersey	
1921	Pittsburgh, Pennsylvania	
1922	Chicago, Illinois	H. A. MILLIS
1923	Washington, D.C.	H. B. DRURY
1924	Chicago, Illinois	L. D. H. WELD
1925	New York, New York	R. C. McCREA
1926	St. Louis, Missouri	I. LIPPINCOTT
1927	Washington, D.C.	H. G. MOULTON
1928	Chicago, Illinois	J. W. BELL
1929	Washington, D.C.	L. R. EDMINSTER
1930	Cleveland, Ohio	C. C. ARBUTHNOT
1931	Washington, D.C.	W. M. W. SPLAWN
1932	Cincinnati, Ohio	F. H. BIRD
1933	Philadelphia, Pennsylvania	S. H. PATTERSON
1934	Chicago, Illinois	E. H. HAHNE
1935	New York, New York	B. H. BECKHART
1936	Chicago, Illinois	G. V. COX
1937	Atlantic City, New Jersey	E. M. PATTERSON
1938	Detroit, Michigan	R. P. BRIGGS
1939	Philadelphia, Pennsylvania	W. N. LOUCKS
1940	New Orleans, Louisiana	R. W. ELSASSER
1941	New York, New York	C. S. SHOUP
1942	Washington, D.C. (Cleveland canceled)	A. E. TAYLOR
1943	Washington, D.C.	A. E. TAYLOR
1944	Washington, D.C. (canceled)	J. DONALDSON
1945	Cleveland, Ohio	M. GILBERT
		D. A. HILL
		R. L. DAVISON
1946	Atlantic City, New Jersey	J. W. HOOT
1947	Chicago, Illinois	G. J. CADY
1948	Cleveland, Ohio	D. S. THOMPSON

* A tabulation of "Statistics of Annual Meetings" from 1885 to 1910 may be found in the "Papers and Discussion" on the twenty-fifth anniversary, published in the Third Series of the publications of the Association, Vol. XI (1910), No. 1, pp. 92-93.

HONORARY MEMBERS

Note: The figures in *italics* indicate the year of election to honorary membership.

Albert Aftalion *1938*
 Sir William Beveridge *1945*
 Arthur L. Bowley *1932*
 Sir Henry Clay *1948*
 L. Einaudi *1926*
 Ragnar Frisch *1948*
 Ralph G. Hawtrey *1918*
 Eli Heckscher *1938*
 Gaston Jèze *1926*

Sir Walter Thomas Layton *1932*
 Gunnar Myrdal *1947*
 Bertil Ohlin *1947*
 Arthur Cecil Pigou *1922*
 Charles Rist *1922*
 Lionel C. Robbins *1947*
 D. H. Robertson *1938*
 Arthur A. C. Spiethoff *1932*

PROGRAM COMMITTEES

ROSTER OF MEMBERS

1934-48

1934 H. A. Millis, Chmn.
 R. G. Tugwell
 S. H. Slichter
 J. H. Willits
 1935 J. M. Clark, Chmn.
 J. D. Black
 E. R. Burns
 N. S. B. Gras
 D. A. McCabe
 1936 A. S. Johnson, Chmn.
 1937 O. M. W. Sprague,
 Chmn.
 A. H. Hansen, Vice-
 Chmn.
 F. S. Deibler
 E. S. Mason
 The Secretary
 1938 A. H. Hansen, Chmn.
 F. B. Garver, Vice-
 Chmn.
 F. C. Mills
 C. D. Edwards
 The Secretary
 1939 Jacob Viner, Chmn.
 The Secretary

1940 F. C. Mills, Chmn.
 J. W. Angell
 C. B. Hoover
 C. R. Noyes
 F. W. Fetter
 P. T. Homan
 E. B. Schumpeter
 The Secretary
 1941 S. H. Slichter, Chmn.
 E. M. Patterson
 R. E. Montgomery
 Herbert Feis
 H. R. Trumbower
 E. G. Nourse
 The Secretary
 1942 E. G. Nourse, Chmn.
 Fritz Machlup
 J. B. Condliffe
 R. A. Gordon
 The Secretary
 1943 Albert B. Wolfe,
 Chmn.
 Marshall E. Dimock
 G. Lyle Belsley
 The Secretary

1944 Joseph S. Davis,
 Chmn.
 James W. Fesler
 G. Lyle Belsley
 The Secretary
 1945 I. L. Sharfman,
 Chmn.
 The Secretary
 1946 E. A. Goldenweiser,
 Chmn.
 The Secretary
 1947 Paul H. Douglas,
 Chmn.
 The Secretary
 1948 Joseph A. Schumpeter,
 Chmn.
 D. H. Wallace
 R. A. Gordon
 A. F. Burns
 Arthur Smithlies
 E. M. Hoover
 P. A. Samuelson
 The Secretary

REPRESENTATIVES OF THE ASSOCIATION TO THE LEARNED COUNCILS

AMERICAN COUNCIL OF LEARNED SOCIETIES

1920-48

1920	A. A. Young	1937-38	A. S. Johnson
	H. B. Gardner		J. M. Clark
1923	A. A. Young	1939-40	J. M. Clark
	H. W. Larnham		F. H. Knight
1924	A. A. Young	1941-42	F. H. Knight
	T. W. Page		E. S. Furniss
1925	T. W. Page	1943-44	E. S. Furniss
	W. F. Willcox		F. H. Knight
1926-36	W. F. Willcox	1945-48	F. H. Knight
	E. F. Gay		J. A. Schumpeter

SOCIAL SCIENCE RESEARCH COUNCIL

1924-48

1924	J. S. Davis	1936	A. H. Hansen
	Horace Secrist		S. H. Slichter
	J. R. Commons		F. H. Knight
1925	Horace Secrist	1937	S. H. Slichter
	J. R. Commons		F. H. Knight
	G. E. Barnett		F. G. Nourse
1926	W. C. Mitchell	1938	F. H. Knight
	G. E. Barnett		E. G. Nourse
	Horace Secrist		S. S. Kuznets
1927	G. E. Barnett	1939-41	E. G. Nourse
	Horace Secrist		S. S. Kuznets
	W. W. Stewart		A. H. Hansen
1928	Horace Secrist	1942-43	E. G. Nourse
	L. C. Marshall		S. S. Kuznets
	G. E. Barnett		R. E. Montgomery
1929	L. C. Marshall	1944	R. E. Montgomery
	G. E. Barnett		E. G. Nourse
	A. S. Johnson		S. E. Leland
1930	G. E. Barnett	1945	E. G. Nourse
	A. S. Johnson		S. E. Leland
	H. A. Millis		J. J. Spengler
1931-33	Max Handman	1946	S. E. Leland
	H. A. Millis		J. J. Spengler
	A. B. Wolfe		N. S. Buchanan
1934	Max Handman	1947	J. J. Spengler
	H. A. Millis		W. B. Stewart
	A. H. Hansen		H. A. Innis
1935	H. A. Millis	1948	W. B. Stewart
	A. H. Hansen		H. A. Innis
	S. H. Slichter		J. J. Spengler

ORGANIZATIONS WITH WHICH THE AMERICAN ECONOMIC ASSOCIATION IS AFFILIATED

AMERICAN COUNCIL OF LEARNED SOCIETIES
1219 16th Street, N.W., Washington 6, D.C.

Executive Director, Cornelius Krusé; *Administrative Secretary*, Mortimer Graves; *Secretary for Grants-in-Aid*, Donald Goodchild; *Special Adviser*, D. H. Daugherty; *Office Manager*, Joe N. Bourne; *Bursar*, Rogers Johnson.

Delegates of the American Economic Association: Frank H. Knight, 1946, Joseph A. Schumpeter, 1948.

Constituent Societies: American Philosophical Society, American Academy of Arts and Sciences, American Antiquarian Society, American Oriental Society, American Numismatic Society, American Philological Association, Archæological Institute of America, Society of Biblical Literature and Exegesis, Modern Language Association of America, American Historical Association, American Economic Association, American Folklore Society, American Philosophical Association, American Anthropological Association, American Political Science Association, Bibliographical Society of America, Association of American Geographers, American Sociological Society, American Society of International Law, College Art Association of America, History of Science Society, Linguistic Society of America, Mediaeval Academy of America.

SOCIAL SCIENCE RESEARCH COUNCIL
230 Park Avenue, New York 17, N.Y.

Officers and Staff: Pendleton Herring, *President*; Paul Webbink, *Vice-President*; Elbridge Sibley, *Executive Associate*; Eleanor C. Isbell; Charles Wagley; Gerald Breese; John G. Turnbull; Harold E. Jones, *Pacific Coast Representative*; Carolyn E. Allen, *Controller*.

Board of Directors, 1948: A. T. Poffenberger, *Chairman*; Robert B. Hall, *Vice-Chairman*; Shepard B. Clough, *Secretary*; Willard L. Thorp, *Treasurer*; Ralph L. Beals, Wendell C. Bennett, James C. Bonbright, E. W. Burgess, Leonard S. Cottrell, Jr., Joseph S. Davis, J. Frederic Dewhurst, Frederick S. Dunn, Elmer Ellis, Shelby M. Harrison, Pendleton Herring, Carl I. Hovland, Harold A. Innis, Charles E. Merriam, Roy F. Nichols, Willard C. Olson, J. Robert Oppenheimer, Frederick Osborn, Robert R. Sears, Joseph J. Spengler, Blair Stewart, William Duncan Strong, Ralph W. Tyler, S. S. Wilks, Kimball Young.

NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.
1819 Broadway, New York 23, N.Y.

Chairman: C. Reinold Noyes; *President*, H. W. Laidler; *Vice-President*, W. W. Riefler; *Treasurer*, G. B. Roberts; *Executive Director*, W. J. Carson; *Editor*, Martha Anderson.

Research Staff: Arthur F. Burns, *Director of Research*; G. H. Moore, *Associate Director of Research*; Moses Abramovitz, Harold Barger, M. A. Copeland, Daniel Creamer, Solomon Fabricant, Milton Friedman, Millard Hastay, W. B. Hickman, F. F. Hill, Thor Hultgren, Simon Kuznets, Clarence D. Long, Ruth P. Mack, F. C. Mills, Wesley C. Mitchell, R. J. Saulnier, G. J. Stigler, Leo Wolman.

Directors at Large: Arthur F. Burns, W. L. Crum, O. W. Knauth, Simon Kuznets, H. W. Laidler, Shepard Morgan, C. Reinold Noyes, G. B. Roberts, Beardsley Rummler, Harry Scherman, George Soule, N. I. Stone, J. Raymond Walsh, Leo Wolman.

Directors by University Appointment: E. Wight Bakke, Yale; C. Canby Balderston, Pennsylvania; C. D. Edwards, Northwestern; G. A. Elliott, Toronto; H. M. Groves, Wisconsin; Gottfried Haberler, Harvard; Clarence Heer, North Carolina; R. L. Kozelka, Minnesota; Wesley C. Mitchell, Columbia; P. M. O'Leary, Cornell; W. W. Riefler, Institute for Advanced Study; T. O. Yntema, Chicago.

Directors Appointed by Other Organizations: P. F. Brundage, American Institute of Accountants; A. H. Cole, Economic History Association; F. C. Mills, American Statistical Association; Boris Shishkin, American Federation of Labor; W. C. Waite, American Farm Economic Association; D. H. Wallace, American Economic Association.

REGIONAL AND ALLIED ASSOCIATIONS

MIDWEST ECONOMIC ASSOCIATION

Officers, 1948-1949

President, C. Ward Macy, Coe College. *Vice-Presidents*, William H. Schrampf, Iowa State College; Sever Klaragard, St. Olaf College. *Secretary-Treasurer*, C. Woody Thompson, University of Iowa.

The Midwest Economic Association was founded in 1934, and has held annual meetings in April each year since. The programs begin Thursday evening and extend through Saturday forenoon. The area embraces Indiana, Illinois, Missouri, Kansas, Iowa, Nebraska, North Dakota, South Dakota, Minnesota, and Wisconsin. Scattered representation also comes from the states of Michigan and Ohio. The organization is informal. Any person engaged in full-time teaching or research, or graduate study, or graduate study and research or teaching in the field of economics or commerce is eligible for membership. A registration fee of \$1.00 is paid by those in attendance in lieu of a membership fee. The Association sponsors no publication. The annual program is prepared and the place of meeting is chosen by the Executive Committee consisting of the President, two Vice-Presidents, Secretary-Treasurer, and the immediate past president.

Past Presidents

1934	S. L. Miller, State University of Iowa	1941	H. G. Brown, University of Missouri
1935	M. H. Hunter, University of Illinois		
1936	Dale Yoder, University of Minnesota	1942-46	Jesse S. Robinson, Carlton College
1937	J. A. Estey, Purdue University	1947	C. L. Christensen, Indiana University
1938	John Ise, University of Kansas		
1939	W. B. Taylor, University of Wisconsin	1948	Roy Blough, University of Chicago
1940	J. E. Kirshman, University of Nebraska (deceased)		

The 1949 meeting will be held in St. Louis, April 21-23, 1949, Hotel Sheraton, headquarters.

SOUTHERN ECONOMIC ASSOCIATION

Officers, 1948

President, G. T. Schwenning, University of North Carolina. *Vice-Presidents*, G. H. Aull, Clemson College, D. M. Wright, University of Virginia. *Secretary-Treasurer*, J. B. McFerrin, University of Florida.

The Southern Economic Association was organized in 1927. The purpose of the Association is the stimulation of economic thought and research in connection with the economic problems of the South.

Membership dues are: annual \$3.00, sustaining \$5.00, contributing \$10.00, life \$60.00, institutional \$10.00. Membership fees include \$2.00 in payment for a year's subscription to the *Southern Economic Journal* at the special rate granted to members of the Southern Economic Association. The *Journal* is a quarterly published jointly by the Association and the University of North Carolina.

Past Presidents

1928-30	Walter J. Matherly, University of Florida	1935-36	J. W. Martin, University of Kentucky
1930-31	Lee Bidgood, University of Alabama	1936-37	C. B. Hoover, Duke University
1931-32	Tipton R. Snively, University of Virginia	1937-38	T. C. Bigham, University of Florida
1932-33	J. B. Trant, Louisiana State University	1938-39	R. H. Tucker, Washington and Lee University
1933-34	R. P. Brooks, University of Georgia	1939-40	J. B. Woosley, University of North Carolina
1934-35	A. S. Keister, Woman's College N.C.	1940-41	Ralph C. Hon, Southwestern University

1941-42	Malcolm H. Bryan, Federal Reserve Bank of Atlanta	1944-45	T. W. Glocker, University of Tennessee
1942-43	Edgar Z. Palmer, University of Kentucky	1945-46	H. L. McCracken, Louisiana State University
1943-44	D. Clark Hyde, University of Virginia	1946-47	Joseph J. Spengler, Duke University

PACIFIC COAST ECONOMIC ASSOCIATION

Officers, 1948

President, R. B. Pettengill, University of Southern California. *Vice-President*, F. W. Clower, State College of Washington. *Secretary-Treasurer*, Perry Mason, University of California. *Editor*, J. A. Guthrie, State College of Washington.

The Pacific Coast Economic Association, under a somewhat different name, was established in 1922, largely through the efforts of Alfred C. Schmitt, Edwin C. Robbins, Stephen I. Miller and Eliot Jones. The first meeting was held in Portland, Oregon. Membership is of two kinds: (1) institutional members, originally confined to accredited universities and colleges west of the Rocky Mountains, but now changed to include any educational institution approved by the Executive Committee, west of the Rockies; (2) individual members, who may be any person interested in the theory, principles and problems of economics and business. In addition to the professional economists, many Pacific Coast businessmen are members.

One of the principles of the P.C.E.A. is to devote approximately one-third or more of each annual conference to problems of the Pacific Slope; another is to co-operate with the efforts of the Social Science Research Council.

The membership of the Association as of July 1, 1948 was 291. Institutional dues are \$10.00 and \$5.00, depending upon size of the institution; individual membership is \$2.00 yearly. The principal publication is the annual proceedings.

Past Presidents

1922	Alfred C. Schmitt, Oregon State college	1935	W. L. Wanlass, Utah State College
1923	Eliot Jones, Stanford University	1936	Kenneth Duncan, Pomona College
1924	Rockwell D. Hunt, University of Southern California	1937	John B. Canning, Stanford University
1925	Howard T. Lewis, University of Washington	1938	James K. Hall, University of Washington
1926	Edwin C. Robbins, University of Oregon	1939	Richard B. Heflebower, Washington State College
1927	Theodore H. Boggs, University of British Columbia	1940	Arthur G. Coons, Claremont Colleges
1928	Ira B. Cross, University of California	1941	Robert D. Calkins, University of California
1929	Howard S. Noble, University of California at Los Angeles	1942	Bernard F. Haley, Stanford University
1930	Thomas A. Beal, University of Utah	1943-45	James H. Gilbert, University of Oregon
1931	John A. Bexell, Oregon State College	1946	John B. Condliffe, University of California
1932	Shirley J. Coon, University of Washington	1947	William S. Hopkins, University of Washington
1933	Clement Akerman, Reed College		
1934	Reid L. McClung, University of Southern California		

ECONOMIC HISTORY ASSOCIATION

Officers, 1948

President, Herbert Heaton, University of Minnesota. *Vice-Presidents*, G. Heberton Evans, Johns Hopkins University, Carter Goodrich, Columbia University. *Secretary*, Ralph H. Bowen, Columbia University. *Treasurer*, Herman E. Krooss, New York University. *Board of Trustees*, The Officers of the Association, The Editors of the *Journal*, Vincent W. Bladen, University of Toronto, Florence E. de Roover, Cedarcrest College, Arthur L. Dunham, University of Michigan, Harold F. Williamson, Northwestern University, Arthur G. Peterson (representing the Agricultural History Society). *Editors*,

Frederic C. Lane, Johns Hopkins University, Thomas C. Cochran, New York University.
Assistant Editor, Winifred Carroll Ferguson, New York City.

The Economic History Association was founded in December, 1940. It is open to all historians, statisticians, economists, and businessmen, who find profit from historical investigations. It publishes semiannually the *Journal of Economic History*. Annual meetings are held in September and semiannual meetings in conjunction with the American Historical Association and the American Economic Association.

Membership dues, which include subscriptions to the *Journal*, are: American and Canadian members \$3.00; foreign members \$3.25; sustaining members \$10.00; and student members \$2.00.

ALLIED SOCIAL SCIENCE ASSOCIATIONS

The Secretaries of Which Are Formally Organized in the Interests of
Conducting Joint Annual Meetings

1948

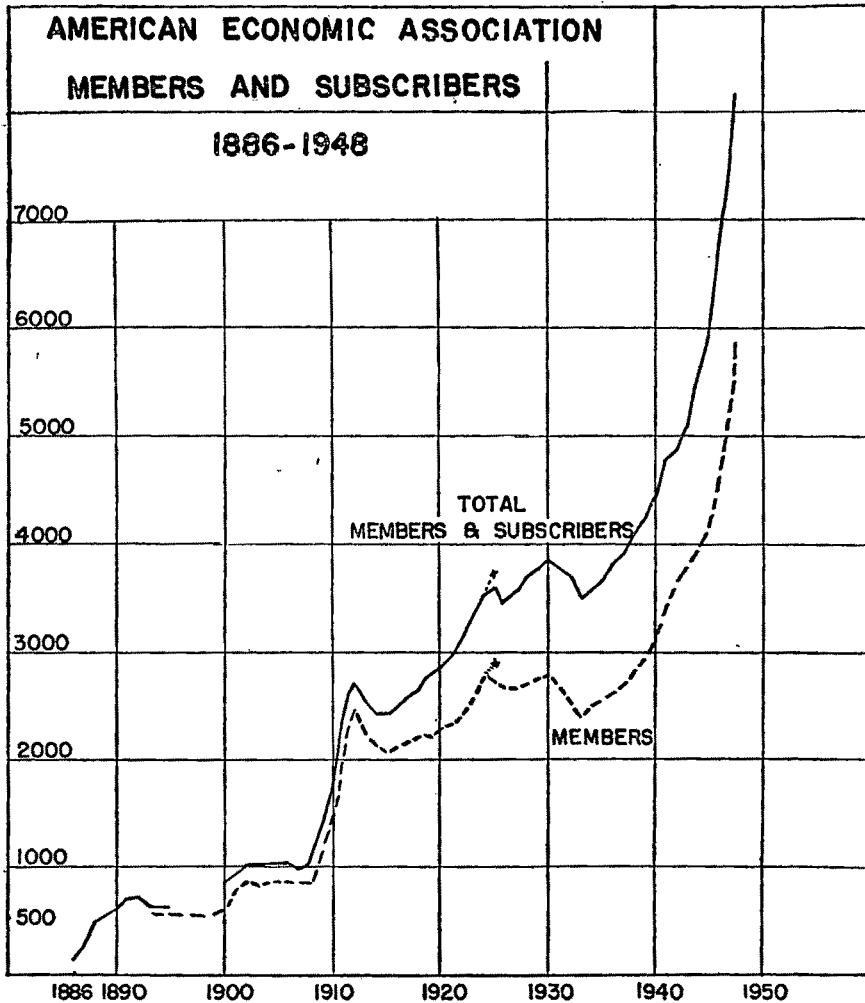
Presidents

Secretaries

American Accounting Association	Thomas E. Leland, A. and M. College of Texas	Clete Chizek, University of Chicago
American Association of University Teachers of Insurance	J. Anderson Fitzgerald, University of Texas	J. Edward Hedges, Indiana University
American Business Law Association*		
American Economic Association	Joseph A. Schumpeter, Harvard University	James Washington Bell, Northwestern University
American Farm Economic Association	William G. Murray, Iowa State College	L. J. Norton, University of Illinois
American Finance Association	B. H. Beckhart, Columbia University	Edward E. Edwards, Indiana University
American Marketing Association	Wroe Alderson, 1905 Walnut Street, Philadelphia 3, Pennsylvania	Harvey W. Huegy, University of Illinois
American Sociological Society	E. Franklin Frazier, Howard University	Ernest R. Mowrer, Northwestern University
American Statistical Association	George W. Snedecor	Merrill M. Flood, 1603 K Street, N.W., Washington, D.C.
Econometric Society	Charles F. Roos, 500 Fifth Avenue, New York, New York	Alfred Cowles, University of Chicago
Institute of Mathematical Statistics	A. Wald, Columbia University	Paul S. Dwyer, University of Michigan
Rural Sociological Society	Charles P. Loomis, Michigan State College	Leland B. Tate, Virginia Polytechnic Institute

* No information received.

CHART I
GROWTH OF MEMBERSHIPS AND SUBSCRIPTIONS



Figures from 1942 Directory and Annual Reports of Secretary.

*Figures for 1925 corrected—Members dropped for non-payment of dues.

TABLE I
MEMBERSHIP CLASSES
(at the Midyear)

	1941	1942	1946	1947	1948
Annual	3,176	3,404	4,144	4,758	5,163
Junior	83	97	90	314	404
Family	14	24	64	80	92
Complimentary	15	20	17	29	27
Honorary	19	18	15	13	14
Life	37	38	31	29	29
	3,344	3,601	4,361	5,223	5,729

TABLE II
MEMBERSHIP STATISTICS, 1886-1947, YEAR-END FIGURES

Year	Annual	Life	Honorary	Total	Year	Annual	Life	Honorary	Total
1886				182*	1916		2,033	80	7
1887				300*	1917		2,077	87	6
1888				500*	1918		3,130	87	5
1889				†	1919		2,125	86	5
1890				635*	1920		2,213	84	4
1891				718*	1921		2,230	102	3
1892				†	1922		2,296	102	8
1893	482	73	17	572	1923		2,479	98	10
1894	484	72	16	572	1924		2,691	98	9
1895	485	71	16	572	1925		2,816	92	8
1896	479	74	15	568	1926		2,538	88	14
1897	477	71	15	563	1927		2,562	86	16
1898	488	69	14	571	1928		2,620	78	12
1899	498	68	12	578	1929		2,671	76	16
1900	541	69	11	621	1930		2,704	76	17
1901	722	67	11	800	1931		2,626	64	15
1902	782	67	11	860	1932		2,488	62	19
1903	757	67	11	835	1933		2,306	58	20
1904	792	67	11	870	1934		2,433	54	19
1905	800	66	11	877	1935		2,473	53	18
1906	794	66	11	871	1936		2,556	48	17
1907				1,002*	1937		2,652	44	17
1908				868	1938		2,764	41	19
1909				1,205	1939		2,906	40	20
1910	1,440	69	10	1,519	1940		3,089	40	19
1911	2,103	78	9	2,190	1941		3,406	37	19
1912	2,369	88	9	2,466	1942		3,617	37	17
1913	2,157	83	9	2,249	1943		3,749	33	16
1914	2,060	81	8	2,149	1944		3,913	32	16
1915	2,004	80	7	2,091	1945		4,108	31	15
					1946		4,618	31	13
					1947		5,286	29	14

* Total includes members and subscribers.

† Figures for these years not available.

TABLE III
MEMBERS AND SUBSCRIBERS FOR SELECTED YEARS
YEAR-END FIGURES

Year	Members	Subscribers	Total
1893	572	82	654
1902	860	151	1,011
1910	1,519	183	1,702
1920	2,301	565	2,866
1930	2,797	1,056	3,853
1935	2,544	1,118	3,662
1936	2,621	1,178	3,799
1937	2,713	1,219	3,932
1938	2,824	1,270	4,094
1939	2,966	1,292	4,258
1940	3,148	1,327	4,475
1941	3,462	1,319	4,781
1942	3,671	1,219	4,890
1943	3,798	1,293	5,091
1944	3,961	1,533	5,494
1945	4,154	1,752	5,906
1946	4,622	2,161	6,823
1947	5,329	2,200	7,529

NOTE: Some of the figures for earlier years have been estimated.

TABLE IV
GEOGRAPHICAL ANALYSIS OF MEMBERS AND SUBSCRIBERS IN THE UNITED STATES
(As of June 15, 1948)

<i>States</i>	<i>Mem- bers</i>	<i>Sub- scribers</i>	<i>Total</i>		<i>Mem- bers</i>	<i>Sub- scribers</i>	<i>Total</i>
NORTHEAST				SOUTHEAST			
Maine	16	7	23	Tennessee	36	29	65
New Hampshire	31	6	37	North Carolina	51	26	77
Vermont	21	8	29	Mississippi	8	10	18
Massachusetts	272	62	334	Virginia	255	29	284
Rhode Island	20	6	26	Kentucky	23	16	39
Connecticut	101	26	127	South Carolina	13	8	21
New York	1,208	209	1,417	Georgia	22	28	50
Delaware	13	4	17	Alabama	23	17	40
Pennsylvania	281	81	362	Arkansas	18	12	30
New Jersey	165	33	198	Florida	37	16	53
Maryland	162	17	179	Louisiana	31	13	44
West Virginia	14	11	25		517	204	721
District of Columbia ...	658	97	755	NORTHWEST			
	2,962	567	3,529	North Dakota	7	6	13
MIDDLE				South Dakota	8	8	16
Ohio	232	61	293	Nebraska	31	17	48
Michigan	143	39	182	Kansas	39	19	58
Indiana	91	30	121	Montana	7	6	13
Wisconsin	118	27	145	Wyoming	2	3	5
Illinois	486	95	581	Colorado	42	16	58
Minnesota	84	40	124	Idaho	7	5	12
Iowa	63	27	90	Utah	14	6	20
Missouri	85	35	120		157	86	243
	1,302	354	1,656	FAR WEST			
SOUTHWEST				Oregon	33	17	50
Oklahoma	22	20	42	Washington	51	26	77
Texas	81	62	143	California	284	102	386
New Mexico	15	3	18	Nevada	5	2	7
Arizona	11	4	15		373	147	520
	129	89	218				

SUMMARY

	<i>Members</i>	<i>Subscribers</i>	<i>Total</i>
Northeast	2,962	567	3,529
Middle	1,302	354	1,656
Southwest	129	89	218
Southeast	517	204	721
Northwest	157	86	243
Far West	373	147	520
A.P.O.	44	75	119
	5,484	1,522	7,006

	UNITED STATES AND POSSESSIONS							Pos- ses- sions	OTHER COUNTRIES									Grand Total
	N.E.	Mid- dle	S.E.	S.W.	N.W.	Far West	A.P.O. F.P.O.		U. S. Total	Eu- rope	Af- rica	Aus- tralasia	No. Amer.	Cent. Amer.	So. Amer.	For- eign Total		
1933																		
Members	1,353	596	125	57	83	166	—		2,380	65	6	27	37	3	3	141	2,521	
Subscribers	<u>237</u>	<u>180</u>	<u>78</u>	<u>47</u>	<u>55</u>	<u>70</u>	<u>7</u>		<u>674</u>	<u>109</u>	<u>6</u>	<u>132</u>	<u>25</u>	<u>2</u>	<u>7</u>	<u>281</u>	<u>955</u>	
Total	1,590	776	203	104	138	236	7		3,054	174	12	159	62	5	10	422	3,476	
1940																		
Members	1,686	712	278	59	110	192	7		3,044	58	4	9	34	2	2	109	3,153	
Subscribers	<u>329</u>	<u>246</u>	<u>126</u>	<u>55</u>	<u>63</u>	<u>100</u>	<u>16</u>		<u>935</u>	<u>95</u>	<u>13</u>	<u>131</u>	<u>32</u>	<u>5</u>	<u>12</u>	<u>288</u>	<u>1,223</u>	
Total	2,015	958	404	114	173	292	23		3,979	153	17	140	66	7	14	397	4,376	
1941																		
Members	1,772	735	325	78	114	211	5		3,240	45	5	7	38	3	4	102	3,342	
Subscribers	<u>362</u>	<u>261</u>	<u>150</u>	<u>56</u>	<u>69</u>	<u>100</u>	<u>17</u>		<u>1,015</u>	<u>53</u>	<u>10</u>	<u>133</u>	<u>30</u>	<u>3</u>	<u>16</u>	<u>245</u>	<u>1,260</u>	
Total	2,134	996	475	134	183	311	22		4,255	98	15	140	68	6	20	347	4,602	
1942																		
Members	1,963	748	395	76	114	205	9		3,510	34	5	4	36	5	7	91	3,601	
Subscribers	<u>368</u>	<u>269</u>	<u>150</u>	<u>61</u>	<u>71</u>	<u>101</u>	<u>7</u>		<u>1,027</u>	<u>30</u>	<u>11</u>	<u>43</u>	<u>31</u>	<u>7</u>	<u>23</u>	<u>145</u>	<u>1,172</u>	
Total	2,331	1,017	545	137	185	306	16		4,537	64	16	47	67	12	30	236	4,773	
1943																		
Members	2,098	706	422	95	115	211	12		3,659	35	5	4	39	4	11	98	3,757	
Subscribers	<u>396</u>	<u>270</u>	<u>160</u>	<u>65</u>	<u>70</u>	<u>100</u>	<u>7</u>		<u>1,068</u>	<u>26</u>	<u>11</u>	<u>37</u>	<u>36</u>	<u>3</u>	<u>22</u>	<u>135</u>	<u>1,203</u>	
Total	2,494	976	582	160	185	311	19		4,727	61	16	41	75	7	33	233	4,960	
1946																		
Members	2,400	894	471	76	120	272	8	22	4,263	45	7	10	58	8	18	146	4,409	
Subscribers	<u>569</u>	<u>323</u>	<u>179</u>	<u>74</u>	<u>81</u>	<u>122</u>	<u>16</u>	<u>37</u>	<u>1,401</u>	<u>199</u>	<u>23</u>	<u>111</u>	<u>58</u>	<u>23</u>	<u>88</u>	<u>502</u>	<u>1,903</u>	
Total	2,969	1,217	650	150	201	394	24	59	5,664	244	30	121	116	31	106	648	6,312	
1947																		
Members	2,834	1,068	516	103	138	324	10	32	5,025	69	9	16	74	21	8	197	5,222	
Subscribers	<u>564</u>	<u>340</u>	<u>190</u>	<u>75</u>	<u>81</u>	<u>137</u>	<u>18</u>	<u>64</u>	<u>1,469</u>	<u>262</u>	<u>31</u>	<u>185</u>	<u>64</u>	<u>96</u>	<u>30</u>	<u>668</u>	<u>2,137</u>	
Total	3,398	1,408	706	178	219	461	28	96	6,494	331	40	201	138	117	38	865	7,359	
1948																		
Members	2,962	1,302	517	129	157	373	15	44	5,499	82	9	30	78	25	9	233	5,732	
Subscribers	<u>567</u>	<u>354</u>	<u>204</u>	<u>89</u>	<u>86</u>	<u>147</u>	<u>10</u>	<u>75</u>	<u>1,532</u>	<u>298</u>	<u>35</u>	<u>184</u>	<u>62</u>	<u>72</u>	<u>17</u>	<u>668</u>	<u>2,200</u>	
Total	3,529	1,656	721	218	243	520	25	119	7,031	380	44	214	140	97	26	901	7,932	

* Europe: British Isles, Italy, France, Germany, U.S.S.R., Switzerland, Sweden, Norway, Rumania, Poland, Hungary, Austria, Spain, Belgium, Czechoslovakia, Holland, Finland, Denmark, Turkey, Iran, Iraq, Lebanon, Trans-Jordan, Palestine, Estonia, Greece, Latvia, Yugoslavia, Portugal, Luxembourg.
Africa: Union of South Africa, Egypt, French North Africa, Italian East Africa, Zanzibar.
Australasia: Australia, New Zealand, Tasmania, China, India, Burma, Japan, Ceylon, Indo-China, Straits Settlement, Manchukuo, Chosen, Dutch East Indies, Siam.
North America: Canada, Cuba, British West Indies, Haiti, Dutch West Indies.
South America: Argentina, Chile, Uruguay, Peru, Ecuador, Brazil, Colombia, Venezuela, Bolivia, Paraguay.
Central America: Mexico, Salvador, Nicaragua, Costa Rica, Dominican Republic, Guatemala, Panama.

EXHIBIT I

LIST OF ECONOMISTS IN SELECTED FOREIGN COUNTRIES

Our pretensions in presenting the following list of economists are modest. We realize that it is neither complete nor accurate, but we hope that it represents a step forward. Our objective is to compile, for a limited number of foreign countries, a sample list of "economists" in the American sense of the term. We think of an economist in this country as a formally-trained scholar who has finished his training through the Ph.D. degree and who has earned a claim to professional standing by having obtained the rank of professor in an institution of higher learning or who has had equivalent training and experience in research or administration in business or in government service.

Our initial intention was to publish only the lists which we had already compiled in this office for one purpose or another, but widespread interest in the project has broadened its scope to its present proportions. We present the wider coverage even though the lists in their present form are of very unequal quality. Some are still in a rough and preliminary stage; others have been carefully screened and reviewed.

There is no reliable source for this information. It has not been possible to get lists from the secretary of foreign learned societies, or professional associations corresponding to our own American Economic Association. In fact, in no instance have we been supplied with a ready-made list. They have in every case been prepared for the occasion and usually only after a preliminary list has been furnished by this office. Responses have been forthcoming on occasion because, as one correspondent wrote, "your list is so bad that it reflects discredit upon the person who made it up."

Probably the most useful source of information of this kind is found in the volume called *The World of Learning*, published in London by Europa Publications, Ltd. The contents are drawn from their volume *International Who's Who* (formerly *Minerva*). For the specialists, however, this source is quite inadequate and inaccurate; so also are the "Who's Who" volumes published in other countries. Lacking other sources, we took names from "Who's Who" sources and sent them to key men in respective countries with a request that they screen the lists and select those who would qualify as "economists" (in our sense of the term) and delete names or add additional ones according to their judgment. We asked them to consult their colleagues and this was usually done. These corrected lists were then sent to other well-known economists both here and abroad and these persons were asked to review the lists in the light of their familiarity with our conception of professional standards and in the light of postwar changes which have occurred abroad. Standards are not clearly definable and it will not be surprising to learn that the results here presented lack uniformity. If conspicuous omissions are noted or if names appear which should not be in the list, the mistakes are due to the fact that we have not made our instructions clear and that we have not consulted all of the right people.

In addition to the difficulty involved in defining an economist, another consideration has been bothersome in the case of certain countries. We have attempted to eliminate political considerations. We may know that some economists have been or still are collaborators—in fact all economists behind the "Iron Curtain" must be—but if persons qualify on the basis of scholarship, they have not consciously been omitted because of their political beliefs or past records.

Serious doubts have been expressed by some correspondents as to the advisability of publishing lists so obviously incomplete. Foreigners are often extremely sensitive and may individually be greatly disturbed to see the American Economic Association, an organization which they hold in high respect, assume such a responsibility. I quote from a letter written by a member well acquainted with these foreign peculiarities:

The only way in which recriminations and bitterness directed against the United States can be avoided, it seems to me, would be to have such lists prepared by the universities or . . . official entities in the countries concerned. In that case, of course, there would frequently be political and other unobjective motivations which would interfere with the production of a really satisfactory compilation, but at any rate the Association, as well as the United States generally, would be out of it.

Despite the dangers referred to above, we believe that the Association is the most appropriate agency to undertake this function. In fact, unless we do so there is little likelihood that it will be done at all. The solution of this difficulty is not to forego publication but to print the lists and explain their limitations.

This then is our disclaimer. The present effort is admittedly fragmentary and hastily thrown together. It is frankly experimental and is submitted in the spirit of one enthusiast who asserted "there are some things worth doing even if they are done badly." In justification of presenting this information we maintain that the war has brought about many changes and communications have been disrupted over a period of almost a decade. The re-establishment of a liaison between the scientific specialists of the different countries cannot await miracles from UNESCO. We have asked the learned councils to undertake this task for us and the A.C.L.S. reply is that "the investigation of the status of various disciplines and personnel in foreign countries is a responsibility individually of the constituent societies rather than the Council."

An enumeration of the names of those who have co-operated in this project would itself constitute a highly select roster of leading economists. Individual credit is certainly due them for their painstaking and discriminating help—some fragments represent an enormous amount of correspondence, checking, and conferring with colleagues—but our acknowledgement and thanks must be made to them collectively. If the lists have value it is largely due to their judgment and co-operation.

I add a postscript to this editorial note to call the attention of economists to Dr. Victor S. Clark's *Who's Who in Economics*, a microfilm edition of an ambitious fifteen-year project which engaged Dr. Clark's efforts until his death. Although this work did not prove useful in the present project, economists might be interested in knowing that there are included some five-thousand biographical sketches of economists from almost every country and over the historical past down to contemporary times.

ECONOMISTS LISTED BY COUNTRY, WITH INSTITUTION AND FIELDS OF SPECIALIZATION

- | | | |
|--|---|--|
| ALGERIA | | |
| Bousquet, Prof. G. H., Algeria | La Nauze, J. A., Univ. of Sydney | |
| AUSTRALIA | | |
| Alcock, Prof. H., Univ. of Queensland (Hist., Econ.) | Mauldon, Prof. F. R. E., Univ. of W. Australia (Econ., Pub. Admin.) | |
| Brigden, Prof. J. B., Australian Embassy (Washington) (Econ., Pub. Admin.) | Melville, Prof. L. G., Economist, Commonwealth Bank (Econ.) | |
| Burton, Asso. Prof. H., Univ. of Melbourne (Econ. Hist.) | Mills, Prof. R. C., Office of Educa. (Econ.) | |
| Budin, Prof. S. J., Univ. of Sydney (Econ.) | Prest, Prof. W., Univ. of Melbourne (Econ.) | |
| Carver, S. R., Govt. Statist., N.S.W. | Raws, Sir W. Lennon, Melbourne | |
| Clark, Colin, Bur. of Ind., Queensland (Econ., Statist.) | Tew, Prof. J. G. B., Univ. of Adelaide (Econ.) | |
| Combs, H. C., Dept. of Post War Reconstruction | Walker, Prof. E. R., Australian Embassy (Paris) (Econ., Pub. Admin.) | |
| Copland, Prof. D. B., National Univ., Canberra (Econ.) | Weller, G. A., Univ. of Melbourne (Commerce) | |
| Crawford, J. G., Bur. of Agric. Econ. | Wilson, Dr. Roland, Commonwealth Statistician (Econ., Statist.) | |
| Firth, Prof. G. G., Univ. of Tasmania (Econ.) | Wood, Prof. G. L., Univ. of Melbourne (Econ., Com.) | |
| Hiblin, Prof. L. F., Univ. of Melbourne (Econ.) | AUSTRIA | |
| Hifford, Asso. Prof. J. K., Univ. of Queensland (Econ., Com.) | Bayer, Prof. Dr. Hans, Univ. of Innsbruck (Theory, Money) | |
| Higgins, Prof. B., Univ. of Melbourne | Degenfeld-Schönburg, Prof. Dr. Ferdinand, Univ. of Vienna (Econ. Systems) | |
| Hyten, Prof. T., Economist, Bank of N.S.W. (Econ.) | Dobretsberger, Prof. Dr. Josef, Univ. of Graz (Theory, Money, Finance) | |
| | Gruher, Doz. Hans, Univ. of Vienna (Econ.) | |
| | Gunther, Prof. Adolf, Univ. of Innsbruck | |

Heinrich, Prof. Dr. Walter, Hochschule für Welthandel, Vienna (Theory)
 Hupka, Prof. J., Univ. of Vienna
 Illy (Schönfeld), Doz. Dr. Leo, Hochschule für Welthandel, Vienna (Econ. Theory)
 John, Dr. Ernst, Institut für Wirtschaftsforschung, Vienna (Bus. Cycles, Theory, Money)
 Kamitz, Prof. Dr. Reinhard, Institut für Wirtschaftsforschung, Vienna (Theory, Politics)
 Kerschagl, Prof. Dr. Richard, Hochschule für Welthandel, Vienna (Bus. Cycles, Theory, Money, Natl. Income)
 Kleeman, Dr. Friedrich, Acting Pres., Austrian Statis. Office, Vienna
 Klezl, Prof. Felix, Univ. of Vienna (Statis.)
 Lagler, Doz. Ernst, Univ. of Vienna (Agric. Econ.)
 Mahr, Dr. Alexander, Univ. of Vienna (Theory)
 Mayer, Prof. Dr. Hans, Univ. of Vienna (Theory, Finance)
 Nemschak, Dr. Franz, Institut für Wirtschaftsforschung, Vienna (Bus. Cycles, Money)
 Oberparleiter, Prof. Dr. Karl, Hochschule für Welthandel, Vienna (Bus. Econ.)
 Pütz, Prof. Dr. Theodor, Univ. Innsbruck (Political Econ.)
 Rothschild, Dr. K. W., Institut für Wirtschaftsforschung, Vienna (Theory)
 Schams, Doz. Dr. Ewald, Technische Hochschule, Vienna (Theory)
 Spann, Prof. Dr. Othmar, Univ. of Vienna (Theory)
 Taucher, Prof. Wilhelm, Univ. of Graz (Theory, Politics)
 Tautscher, Prof. Dr. Anton, Univ. of Graz (Theory, Politics)
 Weinberger, Doz. Dr. Otto, Univ. of Vienna
 Westphalen, Prof., Hochschule für Welthandel (Theory)
 Winkler, Prof. Wilhelm, Univ. of Vienna (Statis., Pop.)

BELGIUM*

Amerijckx, Prof. Dr. F., Brussels (Pub. Fin.)
 Aspeslach, Dr. F. M.
 Basijn, Prof. J., L'Institute Supérieur de Commerce (Pol. Econ., Ins.)
 Bellefontaine, Prof. Ch., L'Institute Supérieur de Commerce (Accy., Bus. Org. Admin.)
 Brandt, Prof. G., L'Institute Supérieur de Commerce (Accy., Bus. Org. Admin.)
 Eyskens, Prof. Gaston, Univ. Catholique de Louvain (Pub. Finance)
 Cracco, Prof. Francois, Louvain
 Craen, Prof. G., L'Institute Supérieur de Commerce (Polit. Econ.)
 De Barys, Eugene, Univ. Libre de Bruxelles (Fin. Org. and Admin.)
 de Brouckers, Louis, Univ. Libre de Bruxelles (Ind. Admin.)
 Dechesne, L., Univ. de Liege (Polit. Econ.)
 De Leener, Georges, Univ. Libre de Bruxelles (Int. Com., Econ. Geog.)
 De Ridder, Prof. A., L'Institute Supérieur de Commerce (Fin. Econ., Statis.)
 Dupriez, Prof. Léon H., Univ. de Louvain (Econ.)
 Goormaghtight, Dr. J. J., Inst. des Relations Internationales Brussels
 Grimbers, Prof., L'Institute Supérieur de Commerce (Accy., Bus. Org. Admin.)
 LeBlanc, Felix, Univ. Libre de Bruxelles (Accountancy)
 Levy, Prof. Paul, Univ. de Bruxelles (Econ.)
 Marzorati, Prof. A., L'Institute Supérieur de Commerce (Colonial Econ.)
 Masoin, Prof. Dr. Maurice
 Mertens, Prof. Dr. Jacques E., Univ. de Louvain (Pub. Fin.)
 Miry, R., Univ. de Gand (Polit. Econ.)
 Olbrechts, Raymond, Univ. Libre de Bruxelles (Statistics)
 Orts, Pierre, Univ. Libre de Bruxelles (Econ. Admin. of Belgian Congo, Int. Pol.)
 Piret, Prof. R., Univ. Catholique de Louvain (Civil and Comp. Com. Law)

Plouvier, Prof. W., L'Institute Supérieur de Commerce (Accy., Bus. Org. Admin.)
 Reynaud, Prof. P. L., (Fiscal Sci.)
 Roger, Prof. Ch., L'Institute Supérieur de Commerce (Polit. Econ.)
 Rousseau, Prof. Paul, Univ. de Louvain (Econ.)
 Schuyten, Prof. R., L'Institute Supérieur de Commerce (Accy., Bus. Org. Admin.)
 Steels, Prof. J., L'Institute Supérieur de Commerce (Finan. Econ.)
 Storme, J., Univ. de Gand (Polit. Econ., Jurisprudence)
 Van Ashbroeck, Prof. J., L'Institute Supérieur de Commerce (Econ. Geog.)
 Verlinden, Prof. Ch., L'Institute Supérieur de Commerce (Econ. Hist.)
 Viaene, Prof. E., L'Institute Supérieur de Commerce (Econ. Geog.)
 Wauters, Arthur, Univ. Libre de Bruxelles (Agrarian Econ.)

* This list is still in a very preliminary stage. Corrections and suggestions may be sent to the Secretary of the Association.

BULGARIA

Stefanoff, Prof. Ivan, State Univ. of Sofia

CHINA*

Chen, C. S., North-East Econ. Res. Soc.
 Chih-Tsai, Chen, Pres., Econ. Assn. of China
 Chen, Prof. Ta, Peiping
 Chen, Y. T., Polit. Sci. and Econ. Soc. of China
 Cheng, Hsiao, Chinese Asso. of Land Econ.
 Chow, H. H., North-East Econ. Res. Soc.
 Chu, I. F., Pol. Sci. and Econ. Soc. of China
 Chu, Jennings P., Directorate of Statistics, Nanking
 Hung-Ju, Li, Chinese Labour Prob. Res. Soc.
 Liu, Prof. Ta-Chung, Peiping
 Low, T. S., Pol. Sci. and Econ. Soc. of China
 Pao-Shu, Fo, Inst. of Econ. Reconstruction
 Tao, Dr. L. K., Szechuen
 Tsao, L. Y., North-East Econ. Res. Soc.
 Tsiang, S. C., North-East Econ. Res. Soc.
 Wang, N. T., North-East Econ. Res. Soc.
 Yang, M. C., North-East Econ. Res. Soc.

* This fragmentary list is submitted as a starter. Corrections and suggestions may be sent to the Secretary of the Association.

CZECHOSLOVAKIA

Berak, Dr., Prague (Pub. Fin.)
 Blazej, Dr. Z., Prague (Pub. Fin.)
 Briska, Prof. R., Univ. of Bratislava
 Egermayer, Dr. Frantisek, Tech. Col., Dept. of Statis. Office, Prague
 Englis, Prof. Charles Univ.
 Fajfr, Dr. Frantisek, Prague
 Heretik, Dr. S., Slovak Planning Office
 Horvath, Dr. Pavel, State Planning Statis. Office, Bratislava (Statis.)
 Karvas, Prof. I. A., Univ. of Bratislava
 Kozak, Dr. J., Prague (Pub. Fin.)
 Kral, Dr. A., Prague (Pub. Fin.)
 Kraus, Dr. F., Ministry of Social Welfare
 Kuchynka, Dr. Karel, Presidential Dept., Prague
 Macek, Prof. J., Higher School of Com., Prague
 Maiwald, Dr. K., School of Polit. and Soc. Studies
 Nebesar, Dr. Jaroslav, Prague
 Sauer, Dr. L., School of Commerce
 Schoenbaum, Prof. E., Charles Univ.
 Stocky, Prof. Jan., Prague

DENMARK

Cohn, Mr. Einar, Copenhagen
 Iversen, Prof. Dr. Carl, Copenhagen (Bus. Fluctuations)
 Johansen, Dr. Kjeld, Statis Office, Copenhagen (Statis.)
 Kristensen, Prof. Thorkil, Aarhus Universitet (Bus. Econ.)
 Nielsen, Axel, Copenhagen (Econ.)

Pedersen, Prof. Jørgen, Aarhus Universitet (Nat. Econ.)
 Pedersen, Prof. P. O., Bagsvaerd
 Philip, Prof. Kjeld, Aarhus Universitet (Social Policy, Fin.)
 Winding Pedersen, H., Copenhagen (Econ.)
 Zeuthen, Prof. F., Inst. of Econ. and Hist, Copenhagen (Econ. Hist.)

EGYPT

Mansour, Loutfy, Dept. de Censos y Geog., Cairo

ENGLAND

(See, also, Northern Ireland, Scotland, and Wales)

Ady, Miss P., St. Anne's Society, Oxford (Ind. Org.)
 Allen, Prof. G. C., University Col., London (Ind. Org.)
 Allen, Maurice, Balliol College, Internat. Found.
 Allen, Prof. R. D. G., London School of Economics (Statist.)
 Andrews, P. W. S., Nuffield College, Oxford
 Anstey, Dr. (Mrs.) Vera, London School of Economics (Indian Econ.)
 Armstrong, W. E., University College, Southampton
 Ashton, Prof. T. S., London School of Economics (Econ. Hist.)
 Atkinson, F. J., Jesus College, Oxford
 Balogh, T., Balliol College, Oxford
 Barker, F.B.A., Sir Ernest
 Bauer, P. T., London School of Economics (Colonial Econ.)
 Beales, H. L., London School of Economics (Econ. Hist.)
 Beecham, Prof. A., University College, Cardiff
 Benham, Prof. Frederic C. C., Malaya—Gov't. Official
 Bensusan-Butt, S., Cabinet Offices
 Beveridge, F.B.A., The Rt. Hon. Lord W. H., London
 Bird, R., London (Econ.)
 Birmingham, W. B., University College, Cardiff
 Bowen, Prof. I., University Col., Hull
 Bowley, F.B.A. A. L., Marley Green, Haslemere, Surrey (Statist.)
 Bowley, Dr. (Miss) Marian, University Col., London
 Braithwaite, Miss C., King's Col., Newcastle-on-Tyne
 Brand, Lord R. H., Bank of England
 Briggs, A., Worcester College, Oxford
 Brown, Prof. A. J., Univ. of Leeds
 Brown, Prof. E. H. Phelps, London School of Economics
 Buer, Mabel C., University Col., Reading (Econ.)
 Burchardt, F. A., Inst. of Statistics, Oxford
 Burn, D. L., Times, London
 Cairncross, A. K., Cabinet Offices, London
 Campion, Harry, Central Statist. Off., Manchester
 Carr-Saunders, F.B.A. Sir Alexander M., London School of Economics (Econ. of Population)
 Carter, C. F., Emanuel College, Cambridge (Statist. Pub. Fin.)
 Chambers, S. P., Imperial Chemical Industries, London
 Champenowne, D. G., Inst. of Statistics, Oxford
 Chandler, P., Ministry of Fuel and Power
 Chapman, D., Univ. of Liverpool
 Chester, D. N., Nuffield College, Oxford, (Pub. Util.)
 Clark, G. N., Dr., Oriel College, Oxford (Econ. Hist.)
 Clark, R. W. B., Treasury
 Clay, Sir Henry, Nuffield College, Oxford
 Coase, R. H., London School of Economics, Pub. Util.)
 Cohen, Miss Ruth, Newham College, Cambridge, (Agric. Econ.)
 Cole, Prof. G. D. H., All Souls' College, Oxford (Econ. Hist.)
 Collier, Miss Frances, Univ. of Manchester
 Connell, K. H., London School of Economics, (Econ. Hist.)
 Corlett, W. J., Univ. of Liverpool (Statistics)
 Court, Prof. W. H. V., Univ. of Birmingham (Econ. Hist.)
 Crick, F. W., Midland Bank, London
 Croome, Mrs. H., London School of Economics
 Crosland, A., Trinity College, Oxford
 Crowther, Geoffrey, London (Econ.)
 Dacey, W. Manning, London (Banker)
 Dalton, Hugh, Parliament member
 Dennison, S. R., Gonville and Caius Col., Cambridge
 Devons, Prof. E., Univ. of Manchester
 Dickinson, H. D., Univ. of Bristol
 Dobb, Maurice, Marshall Lib., Cambridge (Russian Econ.)
 Dow, J. C. R., Cabinet offices
 Dowdell, E. G., St. John's Col., Oxford
 Durbin, E. F. M., Ministry of Works, Under Secy.
 Eastham, J. K., School of Econ., Dundee (Ind. Org.)
 Edwards, R. S., London School of Economics (Acctg.)
 Ellis, A. W. T., Ministry of Works
 Fay, C. R., King's College, Cambridge
 Firth, F.B.A. Prof. Raymond
 Fisher, J. G., London School of Economics (Econ. Hist.)
 Fleming, J. M., Cabinet Offices
 Florence, Prof. P. Sargent, Birmingham University (Ind. Org.)
 Fogarty, M. P., Nuffield College, Oxford
 Ford, Prof. P., University Col., Southampton
 Frankel, Prof. S. H., Nuffield Col., Oxford (Colonial Econ.)
 Fry, R. H., Manchester Guardian, London
 Gaitskell, H. T. N., Minister of Fuel and Power
 Gilbert, J. C., Univ. of Manchester
 Glass, D. V., London School of Economics
 George, T. (Agric.)
 Grant, A. T. K., Treasury
 Grebenik, E., London School of Economics (Pop. Statist.)
 Gregory, Sir T. E., Currency Control Com., Athens, Greece
 Guillebaud, C. W., St. John's Col., Cambridge (Labor, Monetary Earnings)
 Habbakuk, A., Univ. of Cambridge (Econ. Hist.)
 Hagenbuch, W., Univ. of Manchester
 Hall, Margaret, Somerville College, Oxford
 Hall, R. L., Cabinet offices
 Hancock, Prof. K., All Souls' Col., Oxford (Econ. Hist.)
 Hard, Barbara, Reform Club
 Harc, E. C., University of Leeds
 Hargreaves, E. L., Oriel Col., Oxford
 Harrod, R. F., F.B.A., Christ Church, Oxford
 Hawtrey, R. G., F.B.A., Royal Inst. of Internat. Affairs.
 Hayek, Prof. F. A., London School of Economics
 Hemming, Mrs. Peggy, Cabinet offices
 Henderson, A. M., Univ. of Manchester
 Henderson, Prof. Sir. Hubert, Univ. of Oxford
 Henderson, P. D., Lincoln Col., Oxford
 Henderson, R. F., Corpus Christi Col., Cambridge
 Hicks, Prof. J. R., Nuffield Col., Oxford
 Hicks, Mr. U. K., Somerville Co., Oxford (Pub. Fin.)
 Hobson, O., News Chronicle, London
 Hodgson, R. A., Univ. College, Southampton
 Hodson, H., Observer, London
 Hollond, Mrs. M. T., Girtton Col., Cambridge (Pub. Fin.)
 Hutchison, T. W., London School of Economics
 Hyde, F., Univ. of Liverpool (Econ. Hist.)
 Jack, D. T., King's College, Newcastle-on-Tyne
 Jay, D., Treasury
 Jewkes, Prof. John, Univ. of Manchester
 Jones, D. M. Hugh, Keble Col., Oxford
 Jones, Prof. Emer. J. H., Univ. of Leeds
 Judges, A. V., London School of Economics (Econ. Hist.)
 Kahn, R. F., King's Col., Cambridge

- Kaldor, Nicolas, European Econ. Committee
 Kennedy, C. M., Balliol Col., Oxford
 King, W. T. C., London (Econ.)
 Knapp, J., Univ. College, Leicester
 Knoop, D., Univ. of Sheffield
 Layton, Lord, News Chronicle
 Lewis, Prof. W. A., Univ. of Manchester
 Leyland, N., Brasenose Col., Oxford
 Little, L. T., University Col., Exeter
 Loomore, R. J., Univ. of Manchester
 Loveday, A., Nuffield Col., Oxford
 MacDougall, G. D. A., Wadham Col., Oxford (Int. Rela.)
 MacGregor, Prof. D. H. (retired)
 Marquand, H. A., Postmaster General
 Matthews, R., Merton Col., Oxford
 McGregor, Prof. D. H., All Souls' Col., Oxford
 Meade, Prof. J. E., London School of Economics (Int. Trade)
 Morgan, D. J., London School of Economics (Econ.)
 Morgan, Prof. E. V., University Col., Swansea (Money and Banking)
 Murray, Keith, Lincoln Col., Director (Agric. Econ.)
 Mynors, H., Bank of England
 Neuman, A. M. de, University Col., Exeter
 Paish, F. W., London School of Economics (Money and Banking, Bus., Fin.)
 Pigou, Prof. A. C., King's Col., Cambridge
 Plant, Prof. Sir Arnold, London School of Economics (Ind. Org., Econ., Bus. Admin.)
 Ponsonby, G., London School of Economics (Transp. Pub. Util.)
 Pool, A. G., Univ. of Sheffield
 Postan, Prof. A., Peterhouse, Cambridge (Econ. Hist.)
 Price, L. L., Royal Economic Society
 Radford, A., University Col., Nottingham
 Radice, Dr. E. A., London
 Radomysler, A., London School of Economics
 Reddaway, W. D., Clare Col., Cambridge
 Redford, Prof. A., Univ. of Manchester (Econ. Hist.)
 Richardson, Prof. J. H., Univ. of Leeds (Labor Rela.)
 Robbins, Prof. L. C., London School of Economics (Econ.)
 Roberts, R. O., University Col., Swansea
 Robertson, Prof. D. H., Trinity Col., Cambridge (Theory, Money)
 Robinson, E. A. G., Central Planning Dept.
 Robinson, Mrs. Joan, Girton Col., Cambridge
 Roll, Erich, Central Planning Dept.
 Rowe, J. W. F., Pembroke Col., Cambridge
 Salter, Sir Arthur
 Saunders, C. T., Ministry of Labour
 Sayers, Prof. R. S., London School of Economics (Money and Banking)
 Schenck, H. G., Exeter Col., Oxford (Econ. Hist.)
 Schwartz, G., Sunday Times, London
 Secord, C., Central Planning Dept.
 Shackle, G. L. S., Cabinet offices
 Shannon, H. A., Univ. of Bristol
 Shimmis, Prof. N., Univ. of Leeds
 Shove, G. F., Cambridge
 Singer, H. W., Lake Success, U.S.A.
 Smith, H., Ruskin Col., Oxford
 Smith, Prof. J. G., Emeritus, Univ. of Birmingham
 Sorswick, G. D. M., Magdalen Col., Oxford
 Spann, R. N., Univ. of Manchester (Pub. Util.)
 Sraffa, Prof. Piero, Trinity Col., Cambridge
 Stafford, J., Board of Trade
 Stone, J. R. N., King's Col., Cambridge (Social Acctg.)
 Stonier, A. W., Univ. College, London
 Sutherland, Miss Lucy, Lady Margaret Hall, Principal (Econ. Hist.)
 Sykes, Prof. J., University Col., Exeter
 Tawney, Prof. R. H., London School of Economics (Econ. Hist.)
 Thirlby, R. K., London School of Economics
 Tout, Herbert, University Col., London
 Tress, R. C., London School of Economics (Pub. Fin.)
 Tyerman, D., *Times*
 Wadsworth, A. P., *Manchester Guardian*
 Walker, Prof. G. H., Univ. of Birmingham (Transp.)
 Wells, F. A., Univ. College, Nottingham
 Whale, Prof. P. Barrett, Univ. of Liverpool
 Whyte, Prof. Hamilton, Univ. of Bristol
 Wiles, P. D., New College, Bedford
 Williams, Mrs. Gertrude, Bedford Col., London
 Williams, O. L., Treasury
 Wilson, J. H., President, Board of Trade
 Wilson, T., University Col., Oxford
 Wootton, Prof. (Mrs.) Barbara, Bedford Col. London
- FINLAND
- Annala, Vilho, Univ. of Helsinki (Econ. Statis.)
 Gadolin, C. A. J., Absakademi—Helsinki (Econ.)
 Hanmaja, Prof. Leo, Tech. High School, Helsinki (Econ.)
 Knoellinger, Prof. C. E., Abo Akademi, Turku (Econ.)
 Leppo, Prof. Matti, Univ. of Helsinki (Pub. Fin.)
 Lindberg, Valtor, Univ. of Helsinki (Statis.)
 Louhivuori, Prof. Dr. O. W., Bus. School, Helsinki (Econ.)
 Pipping, Prof. Hugo E., Univ. of Helsinki (Econ.)
 Stadius, Odal, Swedish Bus. School, Helsinki (Econ.)
 Sukselainen, V. J., Inst. for Social Work, Helsinki (Econ.)
 Suviranta, Bruno, Univ. of Helsinki (Econ.)
 Tamminen, Mikko, School of Bus., Helsinki (Econ.)
 Tallqvist, F. V. (Emeritus), Univ. of Helsinki (Econ.)
 Törnqvist, Leo, Univ. of Helsinki (Statis.)
 Tudeer, A. E., Bank of Finland, Helsinki (Econ.)
 Waris, Heikki, Univ. of Helsinki (Econ. Welfare)
 Waris, Klaus, Dept. of Planning, Ministry of Finance, Helsinki
- FRANCE
- Aftalion, Prof. Albert (retired), Faculté de Droit, Paris (Money, Cycles)
 Allais, Prof. Maurice, École des Mines, Paris (Gen. Theory)
 Antonelli, Prof. Etienne, Faculté de Droit, Montpellier (Econ., Labor)
 Barrere, Prof., Faculté de Droit, Toulouse (Gen. Theory, Pub. Fin.)
 Bartoli, Prof. Henri, Grenoble (Gen. Theory, Labor)
 Baudin, Prof. Louis, Faculté de Droit, Paris (Money Gen. Theory)
 Baumgartner, Prof. Wilfred, Écoles des Sciences Politiques (Finance)
 Beaucourt, Prof., Univ. de Strasbourg (Ind. Legisla.)
 Bettelheim, Charles, École organisation économique (Soviet Econ.)
 Bordaz, Robert, Banque Paris Pays-Bas (Gen. Theory, Banking)
 Borel, Prof. Emile, Paris
 Boris, Georges, Conseil d'État (Foreign Trade and Exchange)
 Bouniatian, Dr. Mentor, Paris (Gen. Theory)
 Bousquet, Prof. G. H., Faculté de Droit, Alger (Gen. Theory)
 Buquet, Prof. G. H., Faculté de Droit, Dijon (Gen. Theory)
 Byé, Prof. Maurice, Faculté de Droit, Paris (Gen. Theory, Int. Trade)
 Chauley, Prof., Faculté de Droit, Strasbourg (Gen. Theory)
 Cluzeau, Prof. Max, Faculté de Droit, Toulouse (Gen. Theory)
 Courtin, Prof. Rene, Faculté de Droit, Paris (Gen. Theory)

- Darmoy, Prof., Sorbonne, Paris (Statist.)
 Darmois, Prof. Georges, Paris
 Dauphin-Meunier, Prof., Faculté Libre Droit, Paris (Gen. Theory, Labor, Banking)
 Dehove, Prof., Faculté de Droit, Lille (Pub. Fin.)
 Delaporte, Prof. Pierre J., Univ. of Paris (Seine) (Statist. Inst.)
 de Menthon, Prof., Faculté de Droit (Gen. Theory)
 Denis, Prof. Henri, Faculté de Droit (Gen. Theory)
 Dessau, Jan, Institut de Science Economique Appliquée, Paris (Soc. Acctg., Gen. Theory)
 Dieterlen, Pierre, Ecole Organisation Economique et Social (Gen. Theory, Statist., Econ.)
 Divisia, Prof. Francois, Conservatoire des Arts et Métiers, Paris (Gen. Theory, Econometrics)
 Doileans, Prof. Edouard, Faculté de Droit, Paris (Hist., Trade-unions)
 Domarchi, Prof., Faculté de Droit, Dijon (Polit. Econ.)
 Dumontier, Dr. Jacques, Institut National de Statistique, Paris (Econ., Statist.)
 Duret, Jean, C. G. T. (Gen. Theory, Cycles, Labor)
 Fain, Gael, Ecole Organisation Economique et Social (Money, Gen. Theory)
 Frechet, Prof., Sorbonne, l'Institut Poincaré, Paris
 Friedmann, Georges, Conservatoire des Arts et Métiers (Labor, Industry)
 Froment, Commissariat au Plan (Social Acctg.)
 Fromont, Prof. Pierre, l'Institut Nat. Agronomique, Faculté de Droit, Paris (Agric. Econ.)
 Gaffiot, Prof., Faculté de Droit, Alger (Gen. Theory)
 Garrigou-Lagrange, Prof., Faculté de Droit, Bordeaux (Fin., Colonial Legislation)
 Gemachling, Prof., Univ. de Paris (à la Sorbonne) (Hist. of Econ. Thought)
 Germain-Martin, Henri, Banque Nationale Commerce (Gen. Theory)
 Goetz, Prof. Robert, Faculté Droit, Nancy (Gen. Theory)
 Gonnard, Prof. Rene, Faculté de Droit, Lyon (Hist. of Econ. Thought)
 Guilbaud, Prof. Georges, Institut de Science Economique Appliquée, Paris (Statist., Math. Econ.)
 Guittou, Prof. Henri, Faculté de Droit, Dijon (Gen. Theory)
 Hornbostel, Prof. Henri, Faculté Droit, Poitiers (Polit. Econ.)
 Hugon, Prof. Paul, Faculté de Droit, Toulouse (Gen. Theory)
 James, Prof. Emile, Faculté de Droit, Paris (Gen. Theory)
 Jeanneney, Dean Jean-Marcel, Faculté Droit, Grenoble (Gen. Theory)
 Jeramec, Pierre, Inst. Nat. Statist. (Statist.)
 Jeze, Gaston Paul Amélaé, Faculté de Droit, Paris (Pub. Fin., Money and Banking)
 Labrousse, Prof. Ernest, Sorbonne, Paris (Econ. Hist.)
 Landry, Prof. Adolphe, Sorbonne, Int. Union for Scientific Study of Population (Gen. Theory, Labor, Popula.)
 Lasserre, Prof. Georges, Faculté de Droit, Lyon (Polit. Econ., Cooperatives)
 Labergne, Prof. Bernard, Faculté de Droit, Paris (Gen. Theory, Cooperatives)
 Laufenburger, Prof. Henri, Faculté de Droit, Paris (Pub. Fin.)
 Leduc, Prof. Gaston, Faculté de Droit, Paris (Gen. Theory, Int. Trade)
 Lhomme, Prof. Jean, Faculté de Droit, Paris (Gen. Theory, Interest)
 Lutfalla, Prof. Georges, Ecole Organisation Economique et Social (Gen. Theory, Fin., Ins.)
 Mainguy, Dr. Yves, Institute de Science Economique Appliquée (Labor, Bus. Cycles)
 Marc, Alfred, Institut Nat. Statist. (Statist., Nat. Income)
 Marchal, Prof. André, Faculté de Droit, Paris (Statistics)
 Marchal, Prof. Jean, Faculté de Droit, Paris (Theory of Prices, Interest, Pub. Fin.)
 Marcy, Prof., Faculté de Droit, D'Aix-Marseille (Polit. Econ.)
 Marczewski, Dr. Jan, Institut de Science Economique Appliquée, Paris (Nat. Acctg., Nat. Budgets, Gen. Theory)
 Marjolin, Prof. Robert, Commissariat general au Plan (Gen. Theory)
 Michelson, Prof. A., Paris (Pub. Fin.)
 Mendes-France, Pierre, National Assembly (Money)
 Milhau, Prof. Jules, Faculté de Droit, Montpellier (Gen. Econometrics)
 Mossé, Prof. Robert, Faculté de Droit, Grenoble
 Mounier, Prof., Faculté de Droit, Bordeaux (Polit. Econ.)
 Murat, Prof. Auguste, Faculté de Droit, Lyon (Polit. Econ.)
 Nathan, Roger, Min. Nat. Econ. (Foreign Trade)
 Nogaro, Prof. Bertrand, Faculté de Droit, Paris (Money, Gen. Theory)
 Noyelle, Prof. Henri, Faculté Droit, Paris (Gen. Theory)
 Perroux, Prof. Francois, Institut de Science Economique Appliquée, Faculté de Droit, Paris (Gen. Theory)
 Philip, Prof. André, Faculté de Droit, Lyon
 Piatier, Prof. André, Institut Nat. Statistique (Gen. Theory)
 Picard, Prof. Roger, Faculté de Droit, Paris (Gen. Theory, Labor, Distribution)
 Piettre, Prof. André, Faculté de Droit, Strasbourg (Polit. Econ.)
 Pujade, Dr. Pierre, Institut de Science Economique Appliquée, Paris (Int. Monetary Econ.)
 Raynaud, Prof. Pierre, Faculté de Droit, Strasbourg (Polit. Econ.)
 Reboud, Prof. Paul (retired), Faculté de Droit, Grenoble (Gen. Theory)
 Reuter, Prof. Paul, Aix en Provence (Pub. Fin.)
 Rist, Prof. Charles (retired), Faculté de Droit, Paris (Money, Hist. of Econ. Doctrines)
 Rivet, Raymond, L'Institut National de la Statistique, Générale (Inspecteur Gen. Director)
 Rosenstock, Franck Louis, Min. Nat. Econ. (Prices, U.S.A. Econ.)
 Rouquet la Garrigue, Prof. Victor, Faculté de Droit, Bordeaux
 Rottier, Georges, Institut de Science Economique Appliquée, Bur. of Londres (Statist., Theory)
 Roy, Prof. René, Ecole Ponts et Chaussées (Econometrics, Statist.)
 Rueff, Prof. Jacques, Institut d'Études Politiques, Paris (Money, Gen. Theory)
 Saint-Germes, Prof., Faculté de Droit, Caen (Polit. Econ.)
 Sauvy, Prof. Alfred, Institut de Demographie, Paris (Population, Statist.)
 Sellier, Dr. Francois, Institut de Science Economique Appliquée, Paris (Monetary Theory)
 Sequillon, Prof. Y., Nancy (Pub. Fin.)
 Siegfried, Prof. André (Econ. Geog., Raw Material, Contemporary U.S.)
 Trevoux, Prof. F., Faculté de Droit, Lyon (Polit. Econ.)
 Truchy, Prof. Henri (retired), Faculté de Droit, Paris (Gen. Theory)
 Ullmo, Prof., l'Ecole Polytechnique, Paris
 Uri, Pierre, Commissariat General au Plan, Paris (Econ., Soc. Acctg., Statist.)
 Vigreux, Prof. Pierre, Faculté de Droit, Toulouse (Hist. of Econ. Thought, Foreign Exchange, Polit. Econ.)
 Ville, Prof. Jean André, Paris
 Villey, Prof. Dantel, Faculté de Droit, Poitiers (Gen. Theory, Hist.)
 Vincent, Prof., Conservatoire des Arts et Métiers (Statist., Nat. Social Acctg.)
 Weiller, Prof. Jean, Faculté de Droit, Poitiers (Int. Trade)

In preparing the list of economists for Germany especial difficulties were encountered. Lists received from separate sources here and abroad were difficult to reconcile.

The first list below includes names upon which there seems to be fairly general agreement. The second list contains names which were included on the original lists from two or more sources but which were checked off by some subsequent reviewer. The third list, compiled from university catalogues and other sources, contains names which have not been adequately reviewed and undoubtedly includes (a) many who would not rate the rank of professor in American universities, (b) others who are not fully employed as professors, and (c) those whose *Gebiet* is *Betriebswirtschaft* rather than *Volkswirtschaftslehre*. The distinction between business administration and economics is more clearly drawn in Germany than with us. Perhaps business economists should have been excluded or listed separately to avoid undue length. The list may also contain names of professors whose status or whereabouts remain doubtful. There is a great deal of moving around on the part of professors in Germany affecting both locus and status. With all these shortcomings the list is presented with the hope that qualified persons in a position to know will complete the information we lack so that we may drop names that do not belong and add the others to the main group.

GERMANY—First List

Albrecht, Prof. Gerhard, Marburg (Nat. Econ., Labor, Soc. Sec.)
 Beckerath, Prof. Dr. Erwin von, Bonn (Theory, Econ. Sys.)
 Dietze, Prof. Constantin v., Freiburg (Agric. Internat. Econ.)
 Egner, Prof. Dr. Erich, Göttingen (Theory)
 Eucken, Prof. Dr. Walter, Freiburg (Econ. Theory, Money and Banking, Pub. Control)
 Gerloff, Prof. Dr. Wilhelm, Frankfurt/M. (Pub. Fin.)
 Hoffmann, Prof. Dr. Walther, Münster (Ind. Studies)
 Kromphardt, Prof. Dr. Wilhelm, Tech. Hochschule Hannover (Theory, Money and Banking)
 Mackenroth, Prof. Dr. Erich, Kiel (Econ. Theory, Bus. Cycles)
 Meyer, Prof. Dr. Fritz, Bonn (Econ. Theory, Money and Banking, Int. Econ.)
 Müller-Armack, Prof. Dr. Alfred, Münster (Econ. Hist., Nat. Econ., Econ. Syst., Bus. Cycles)
 Peter, Prof. Dr. Hans, Tübingen (Stats. and Econometrics, Pub. Pol. and Control, Theory)
 Pfister, Prof. Dr. Bernhard, Hamburg (Econ. Syst., Labor, Soc. Welfare)
 Predöhl, Prof. Dr. Andreas, Kiel (Location Theory, Bus. Cycles)
 Preiser, Prof. Dr. Erich, Heidelberg (Theory, Bus. Cycles)
 Rittershausen, Prof. Dr. Heinrich, Frankfurt/Höchst (Econ. Syst., Money and Credit, Pub. Fin.)
 Sauermann, Dr. Heinz, Frankfurt (Money and Banking)
 Schmitt, Prof. Dr. Alfons, Münster (Theory, Pub. Util.)
 Schmolders, Prof. Dr. Gunter, Köln (Pub. Pol. and Control, Ind. Studies)
 Schneider, Prof. Dr. Erich, Kiel (Theory)
 Stucken, Prof. Dr. Rudolf, Erlangen (Bus. Cycles, Money and Banking Bkg., Pub. Fin.)
 Terhalle, Prof. Dr. Fritz, Munich (Pub. Fin., Money and Banking)
 Teschemacher, Prof. Dr. Hans, Tübingen (Pub. Fin.)
 Wagemann, Prof. Dr. Ernst, Göttingen (Bus. Cycles)
 Weber, Prof. Dr. Alfred, Heidelberg (Theory, Sociology)
 Welter, Prof. Dr. Erich, Frankfurt/M. (Money and Banking Bkg., Bus. Cycles)
 Wessel, Prof. Dr. Theodor, Köln (Theory, Int. Econ.)
 Wiese, Prof. Dr. Leopold von, Köln (Theory, Soc. Econ.)

Zwiedineck-Südenhorst, Prof. Dr. Otto von
 Munich (Theory, Econ. Hist., Nat. Econ., Labor)

GERMANY—Second List

Bauer, Prof. Dr. Clemens, Freiburg (Econ., Hist. Nat. Econ.)
 Bolza, Dr. Hans, Würzburg (Theory)
 Brinkmann, Prof. Karl, Tübingen (Econ. Theory)
 Cahn-Garnier, Dr. Fritz, Stuttgart (Fin.)
 Carell, Prof. Erich, Würzburg (Econ. Theory, Bus. Cycles, Int. Trade)
 Erhard, Prof. Dr. Ludwig, München (Econ. Sys. Bus. Fluct., Pub. Pol. and Control)
 Gleitze, Prof. Dr. Otto, Berlin (Stats.)
 Helander, Prof. Even, Nürnberg (Transp.)
 Hesse, Prof. Albert, Stuttgart (Agric. Econ. Theory)
 Jecht, Prof. Horst, Heidelberg (Fin.)
 Kruse, Dozent Dr. Alfred, München (Ind. Studies)
 Kuczynski, Prof. Jürgen, Berlin (Labor Econ.)
 Liefmann-Keil, Dozentin Dr. Elisabeth, Freiburg (Money and Banking, Labor, Soc. Welfare)
 Lütge, Prof. Dr. Friedrich, München (Econ. Hist. Nat. Econ., Soc. Welfare)
 Maier, Dozent Dr. Karl Friedrich, Freiburg (Money and Banking, Int. Econ., Bus. Cycles)
 Miksch, Dr. habil. Leonhard, Frankfurt/Höchst (Theory, Econ. Admin., Pub. Policies)
 Möller, Dozent Dr. Hans, Frankfurt/Höchst (Econ. Theory, Pub. and Bus. Admin.)
 Moeller, Prof. Hero, Erlangen (Econ. Theory)
 Most, Prof. Dr. Otto, Mainz (Stats., Pub. Util.)
 Müllenfels, Prof. Dr. Albert von, Hamburg (Econ. Pol., Planning Money and Banking, Pub. Fin.)
 Nahmer, Prof. Dr. R. Noll v.d. Mainz (Money and Banking Pub. Fin.)
 Napp-Zinn, Prof. Dr. A. F., Mainz (Trans. Pub. Util.)
 Niehaus, Prof. Dr. Heinrich, Bonn-Poppelsdorf (Agric. Econ., Econ. Geog.)
 Pirath, Prof. Carl, (Transportation)
 Schneider, Prof. Oswald, Berlin (Fin.)
 Seraphim, Prof. Hans Jürgen, Münster (Agric. and Bus. Econ.)
 Veit, Präsident Dr. O., Frankfurt/M. (Econ. Sys. Bus. Cycles, Money and Banking)
 Waffenschmidt, Prof. Dr. W. G., Mannheim (Theory, Stats. and Econometrics, Ind. Studies)

GERMANY—Third List

Friedensberg, Präsident Dr. Ferdinand, Berlin (Bus. Cycles Res.)
 Mellerowicz, Prof. Konrad, Berlin (Bus. Econ.)
 Rogowsky, Prof. Bruno, Berlin (Bus. Econ.)
 Brinkmann, Prof. Theodor, Bonn (Econ. of Agric.)

Beckmann, Prof. Fritz, Bonn (Econ. Policy)
 Kirsch, Prof. Michael, Erlangen (Bus. Econ.)
 Weippert, Prof. Georg, Erlangen (Econ., Pub. Fin.,
 Statis.)
 Aufermann, Prof. Ewald, Frankfurt (Econ. and
 Tax.)
 Auler, Prof. Wilhelm, Frankfurt (Bus. Econ.)
 Gutenberg, Prof. Erich, Frankfurt (Bus. Econ.)
 Heleauer, Prof. Josef, Frankfurt (Bus. Econ.)
 Schmidt, Prof. Fritz, Frankfurt (Bus. Econ. and
 Transp.)
 Skalweit, Prof. August, Frankfurt (Hist. of Econ.)
 Wehrle, Prof. Emil, Frankfurt (Nat. Econ. Soc.
 Sci.)
 Lohmann, Prof. Martin, Freiburg (Economics)
 Wilken, Prof. Folkert, Freiburg (Nat. Economy)
 Andrae, Prof. Wilhelm, Giessen (Econ. Theory,
 Pub. Fin.)
 Auler, Prof. Wilhelm, Giessen (Bus. Econ.)
 Reinhold, Prof. Gerhard, Giessen (Agric. and For-
 estry Econ.)
 Abel, Prof. Wilhelm, Goettingen (Cooperatives)
 Fleck, Prof. Anton, Greifswald (Econ.)
 Gehrig, Prof. Hans, Halle (Nat. Economy)
 Eisleid, Prof. Kurt, Hamburg (Econ.)
 Ritschl, Prof. Hans, Hamburg (Nat. Economy)
 Schiller, Prof. Karl, Hamburg (Econ. Geog.)
 Pfeiderer, Prof. Otto, Heidelberg (Money and
 Credit)
 Sitzler, Prof., Heidelberg (Social Policy)
 Sultan, Prof., Heidelberg (Financial Sci.)
 Baade, Prof. Fritz, Kiel (Agric. Econ.)
 Fick, Prof. Harald, Kiel (Pub. Fin.)
 Guelich, Prof. Wilhelm, Kiel (Lit. of Econ. and
 Soc. Sci.)
 Savelsberg, Prof. Gertrud, Kiel (Social Policy)
 Fricke, Prof. Rolf, Karlsruhe (Nat. Economy)
 Berkenkopf, Prof. Paul, Köln (Nat. Economy)
 Beste, Prof. Theodor, Köln (Bus. Econ.)
 Breuer, Prof. Jakob, Köln (Statistics)
 Eckart, Prof. Christian, Köln (Nat. Economy)
 Kuske, Prof. Bruno, Köln (Econ. Hist.)
 Lindemann, Prof. Hugo, Köln (Soc. Econ. and
 Admin.)
 Schmalenbach, Prof. Eugen, Köln (Bus. Econ.)
 Schnettler, Prof. Albert, Köln (Bus. Econ.)
 Seyffert, Prof. Rudolf, Köln (Bus. Econ.)
 Tiburzius, Prof. Joachim, Leipzig (Econ.)
 Muenstermann, Prof. Hans, Mainz (Bus. Econ.)
 Haas, Prof., Mannheim (Ind. Econ., Com.)
 Le Coutre, Prof., Mannheim (Heidelberg) (Bus.
 Econ., Acctg.)
 Lysinski, Prof., Mannheim (Heidelberg) (Occupational
 Theory, Personnel Prob.)
 Anderson, Prof. Oskar, Munich (Statis.)
 Boeckmann, Prof. Lisl, Munich (Bus. Econ.)
 Fischer, Prof. Guido, Munich (Bus. Econ.)
 Gredner, Prof. Wilhelm, Munich (Econ. Geog.)
 Lukas, Prof. Eduard, Munich (Nat. Econ., Money)
 Roessle, Prof. Karl-Friedric, Munich (Bus. Econ.)
 Linhardt, Prof. Hans, Münster (Bus. Econ.)
 Schnettler, Prof. Albert, Münster (Bus. Econ.)
 Bergler, Prof. Georg, Nürnberg (Bus. Econ.)
 Kirsch, Prof. W., (Erlangen?) (Commerce)
 Proeßler, Prof. Hans, Nürnberg (Econ. Hist. and
 Soc.)
 Schaefer, Prof. Erich, Nürnberg (Bus. and Ind.
 Econ.)
 Vershofen, Prof. Wilhelm, Nürnberg (Econ.
 Theory)
 Weddigen, Prof. Walter, Nürnberg (Nat. Econ.)
 Bollheim, Prof. Guenter, Rostock (Nat. Economy)
 Koch, Prof. Woldemar, Stuttgart (Pub. Fin.)
 Rieger, Prof. Wilhelm, Stuttgart (Tübingen?)
 (Bus. Econ.)
 Sivers, Prof. Erich von, Stuttgart (Econ. Hist.,
 Bus. Cycles)
 Tæuber, Prof. Walter, Würzburg (Econ. Hist.,
 Soc.)
 Willeke, Eduard, Stuttgart (Statis., Int. Trade)

GREECE

Aelianos, Editor "Economist of Athens"

Angelopoulos, Prof. Angelos, formerly Athens Uni-
 versity (Pub. Fin.)
 Batsis, A., Athens (Nat. Econ. and Recon.)
 Christodouloupoulos, Pindar, Athens, School of
 Com. and Econ. (Polit. Econ.)
 Delivanes, Prof. Demetrius, Salonica's Univ.
 (Econ.)
 Dertiles, Prof. Panayiotis, Salonica's Univ. (Pub.
 Fin.)
 Kallitsounakes, Prof. Demetrius, Athens, School of
 Com. and Econ. (Econ. Policy)
 Karanikas, Prof. Constantine, Athens, School of
 Com. and Econ. (Econ. Geog.)
 Saounatsos, A. (Banking)
 Sbarounes, Prof. Athanassios, Athens, School of
 Com. and Econ. (Int. Econ. Rela.)
 Sideris, Prof. A. D., Athens, School of Com. and
 Econ. (Hist. of Econ. Theory)
 Spourgites, Prof. A., Athens, School of Com. and
 Econ. (Banking Policy)
 Varvarcsos, Prof. Kyriakos, Athens Univ. (Polit.
 Econ.)
 Zolotas, Prof. Xenophon, Athens Univ. (Polit.
 Econ.)

HUNGARY

Abay, Prof. Julius, Elizabeth Univ. (Econ. Statis.)
 Baranyai, Leopold
 Bene, Dr. Lajos
 Boér, Prof. Elek
 Bud, János
 Éber, Antal
 Elekes, Prof. Dr. Dezso, Budapest. (Statis.)
 Erdő-Harrach, Bela
 Fenyő, Macmillan
 György, Ernő
 Házy, László
 Heller, Farkas
 Horvath, Prof. R. A., Hungarian Central Statis.
 Office
 Judik, Josef
 Kemény, George
 Knob, Alexander
 Nagy, Dénes
 Navrátil, Akos
 Racz, Jenő
 Szigeti, Gyula
 Vas, Zoltán
 Varga, Prof. Stephen, Budapest

INDIA

(Incomplete List)

Adarkar, B. N., Ministry of Commerce, New
 Delhi
 Adarkar, B. P., Ministry of External Affairs, New
 Delhi
 Anjaria, J. J., Reserve Bank of India, Bombay
 Chand, Gyan, Planning Board, Government of
 India, New Delhi
 Gadgil, D. R., Gokhale Institute of Economics and
 Political Science, Poona
 Lokanathan, P. S., Economic Commission for
 Asia and Far East, Shanghai
 Mehta, J. K., University of Allahabad
 Muranjan, S. K., Sydenham College, Bombay
 Naidu, V. V. Narayanaswami, Tariff Board, New
 Delhi
 Prasad, P. S. Narayan, Reserve Bank of India,
 Bombay
 Rao, V. K. R. V., University of Delhi
 Shenoy, B. R., Reserve Bank of India, Bombay
 Thomas, P. J., Ministry of Finance, New Delhi
 Vakil, C. N., Bombay University

ITALY

Amaduzzi, Prof. Aldo, Univ. of Genoa (Gen. and
 Appl. Accty.)
 Amoroso, Prof. Luigi, Univ. of Rome (Polit.
 Econ.)
 Arena, Prof. Celestino, Univ. of Rome (Fin. Sci.)
 Bachi, Prof. Rinaldo, Univ. of Rome (Polit. Econ.)
 Barbagallo, Prof. Corrado, Univ. of Naples (Econ.
 Hist.)
 Barbieri, Prof. Gino, Univ. of Bari (Econ. Hist.)

- Benini, Prof. Rodolfo, Univ. of Rome (Statis.)
 Bertolino, Prof. Alberto, Univ. of Florence (Polit. Econ.)
 Boldrini, Prof. Marcello, Univ. of Milan (Statis.)
 Bordini, Prof. Arrigo, Univ. of Turin (Polit. Econ.)
 Borgatta, Prof. Gino, Univ. of Milan (Fin. Sci.)
 Bosco, Prof. Giacinto, Univ. of Rome (Study of Commodities)
 Breglia, Prof. Alberto, Univ. of Rome (Polit. Econ.)
 Bresciani-Turroni, Prof. C., Univ. of Milan (Polit. Econ.)
 Bruguier, Prof. Giuseppe, Univ. of Rome (Fin., Econ. Policy)
 Cabiati, Prof. Attilio, Univ. of Genoa (Fin., Econ. Policy)
 Caffé, Prof. Federico, Univ. of Rome (Credit, Money and Banking)
 Carli, Dr. Guido, Rome (1st. Ital. del Cambi)
 Ceccherelli, Prof. Alberto, Univ. of Florence (Gen. & Appl. Accy.)
 Chessa, Prof. Federico, Univ. of Genoa (Polit. Econ.)
 Corbino, Prof. Epicarmo, Univ. of Naples (Fin. and Econ. Policy)
 Corsani, Prof. Gaetano, Univ. of Florence (Commercial Policy)
 Cossiani, Prof. Cesare, Univ. of Siena (Fin. Sci.)
 Crosara, Prof. Adolfo, Univ. of Perugia (Econ. Theory)
 D'Addario, Prof. Raffaele, Univ. of Bari (Statis.)
 D'Albergo, Prof. Ernesto, Univ. of Bologna (Fin. Sci.)
 Da Empoli, Prof. Attilio, Univ. of Naples (Polit. Econ.)
 Dalpane, Prof. Luigi, Univ. of Perugia (Econ. Hist.)
 De Castro, Prof. Diego, Univ. of Turin (Statis.)
 De Luca, Prof. Giovanni, Univ. of Naples (Polit. Econ.)
 De Maria, Prof. Giovanni, Univ. of Milan (Polit. Econ.)
 De Minico, Prof. Lorenzo, Univ. of Naples (Gen. & Appl. Accy.)
 De Pietri-Tonelli, Prof. Alfonso, Univ. of Venice (Fin., Econ. Policy)
 De Vergottini, Prof. Mario, Univ. of Catania (Statis.)
 Del Vecchio, Dr. Giuseppe, Rome (Credit, Money and Banking)
 Del Vecchio, Prof. Gustavo, Univ. of Bologna (Polit. Econ.)
 Dell'Amore, Prof. Gino, Univ. of Venice (Tech. Econ.)
 Della Penna, Prof. Francesco, Univ. of Rome (Gen. & Appl. Accy.)
 Di Fenizio, Prof. Ferdinando, Univ. of Pavia (Polit. Econ.)
 Di Nardi, Prof. Giovanni, Univ. of Bari (Polit. Econ.)
 Dominédó, Prof. Valentino, Univ. of Turin (Polit. Econ.)
 Einaudi, Prof. Luigi, Pres. of Republic of Italy, Univ. of Turin (Fin. Sci.)
 Fagchini, Prof. Vittorio, Univ. of Bologna (Econ. Hist.)
 Fanfani, Prof. Annitore, Univ. of Milan (Econ. Hist.)
 Fanno, Prof. Marco, Univ. of Padova (Polit. Econ.)
 Fantini, Prof. Oddone, Univ. of Rome (Fin., Econ. Policy)
 Faziani, Prof. Mauro, Univ. of Genoa (Fin.)
 Federici, Prof. Luigi, Univ. of Modena (Polit. Econ.)
 Fortunati, Prof. Paolo, Univ. of Bologna (Statis.)
 Fossati, Prof. Antonio, Univ. of Trieste (Econ. Hist.)
 Fossati, Prof. Eraldo, Univ. of Trieste (Polit. Econ.)
 Fraccacreta, Prof. Angelo, Univ. of Naples (Fin. Sci.)
- Galli, Prof. Renato, Univ. of Florence (Polit. Econ.)
 Gambino, Prof. Amedeo, Univ. of Rome (Credit, Money and Banking)
 Gangemi, Prof. Raffaello, Univ. of Naples (Fin. Sci.)
 Garino-Cainna, Prof. Attilio, Univ. of Turin (Fin. Sci.)
 Garrone, Prof. Nicola, Univ. of Rome (Money and Banking)
 Giannini, Prof. Achille, Univ. of Bari (Fin. Sci.)
 Gini, Prof. Corrado, Univ. of Rome (Statis.)
 Girella, Prof. Egisto, Rome (Credit, Money and Banking)
 Graziadei, Prof. Antonio, Univ. of Rome (Agr. Econ.)
 Griziotti, Prof. Benevento, Univ. of Pavia (Fin. Sci.)
 Labriola, Prof. Arturo, Univ. of Messina (Polit. Econ.)
 Lanzillo, Prof. Agostino, Univ. of Venice (Polit. Econ.)
 Lasorza, Prof. Giovanni, Univ. of Bari (Statis.)
 Lenti, Prof. Libero, Univ. of Pavia (Statis.)
 Livi, Prof. Livio, Univ. of Florence (Statis.)
 Luzzatto, Prof. Gino, Univ. of Venice (Econ. Hist.)
 Marsili-Libelli, Prof. Mario, Univ. of Florence (Fin. Sci.)
 Mazzantini, Prof. Mario, Univ. of Naples (Money and Banking)
 Menegazzi, Prof. Guido, Univ. of Bari (Finan., Econ. Policy)
 Mengarini, Prof. Publio, Univ. of Naples (Polit. Sci.)
 Morselli, Prof. Emanuele, Univ. of Ferrara, (Fin. Sci.)
 Niafaro, Prof. Alfredo, Univ. of Rome (Statis.)
 Nina, Prof. Luigi, Univ. of Macerata (Fin. Sci.)
 Nitti, Prof. Saverio, Univ. of Rome (Fin. Sci.)
 Papi, Prof. Giuseppe Ugo, Univ. of Rome (Polit. Econ.)
 Parri, Prof. Ferruccio, Inst. per gli Studi di Economia
 Parrillo, Prof. Francesco, Univ. of Rome (Credit, Money and Banking)
 Pesenti, Prof. Antonio, Univ. of Rome (Fin. Sci.)
 Pietra, Prof. Gaetano, Univ. of Padova (Statis.)
 Renzi, Prof. Antonio, Univ. of Rome (Com. Policy)
 Repaci, Prof. Francesco, Univ. of Padova (Polit. Econ.)
 Resta, Prof. Manlio (Econ.)
 Rossi, Prof. Lionello, Univ. of Padova (Fin., Econ. Policy)
 Ruca-Salerno, Prof. Paolo, Univ. of Palermo (Fin. Sci.)
 Saporì, Prof. Armando, Univ. of Florence (Econ. Hist.)
 Scalfati, Prof. Stanislao, Univ. of Perugia (Fin. Sci.)
 Senzini, Prof. Guido, Univ. of Pisa (Polit. Econ.)
 Tivaroni, Prof. Jacopo, Univ. of Genoa (Fin. Sci.)
 Travaglini, Prof. Volrico, Univ. of Genoa (Fin., Econ. Policy)
 Tridente, Prof. Nicola, Univ. of Bari (Com. Policy)
 Uggé, Prof. Albino, Univ. of Venice (Statis.)
 Varroni, Prof. Ezio, Univ. of Venice (Fin. Sci.)
 Vianelli, Prof. Silvio, Univ. of Palermo (Statis.)
 Vinci, Prof. Felice, Univ. of Milano (Statis.)
 Vito, Prof. Francesco, Catholic Univ. of Milan (Polit. Econ.)
 Zappa, Prof. Gino, Inst. of Econ. & Com., Venice
 Zingali, Prof. Gaetano, Univ. of Catania (Fin. Sci.)

JAPAN

- Honjyo, Prof. Dr. Eihiro, Kyoto Univ. (Econ. Hist.)
 Kambe, Prof. Dr. Masao, Kyoto Univ. (Pub. Fin.)
 Koizumi, Prof. Dr. Shinz, Keio Univ. (Econ. Social Thought)
 Maide, Dr. Chogoro, Tokyo Univ. (Econ. Hist.)

Nakayama, Prof. Dr. Ichiro, Tokyo Univ. (Econ.)
 Nomura, Prof. Dr. Kentaro, Keio Univ. (Econ. Thought, Econ. Hist.)
 Ouchi, Prof. Dr. Hyoe, Tokyo Univ. (Pub. Fin.)
 Takahashi, Dr. Seichiro, Japan Art Academy (Econ. Theory, Econ. Hist.)
 Takano, Dr. Iwasaburo, Japan Broadcasting Asso. (Statist.)
 Tobata, Prof. Dr. Seichi, Tokyo Univ. (Agric. Econ.)
 Ueno, Prof. Dr. Michisuke, Tokyo Univ. (Acctg.)
 Yamada, Dr. Prof. Moritaro, Tokyo Univ. (Acctg.)
 Yanaihara, Prof. Dr. Tadao, Tokyo Univ. (Colonial Policy)

THE NETHERLANDS

Brouwers, Prof. G., Gravenhage
 Cobbenhagen, Prof. J. M. Tilburg
 de Vries, Prof. Dr. E., The Hague
 de Vries, Prof. Dr. F., Amsterdam
 Goudriaan, Prof. Ir. J., Hilversum (Bus. Admin., Econ.)
 Goudswaard, Dr. G., The Hague
 Greidanus, Tj., Hilversum
 Hennipman, Prof. Dr. P., Univ. Van Amsterdam (Theory, Money and Banking)
 Holtrop, Dr. M. W., Amsterdam
 Idenburg, Dr. Phillip J., The Hague (Dir. General)
 Kaag, Prof. H. A., Amsterdam
 Keesing, Prof. Dr. F. A. G., The Hague
 Kleerekoper, Dr. S., Amsterdam
 Koopmans, Prof. J. G., Gravenhage
 Limperg, Prof. Th., Jr., Univ. Van Amsterdam (Com. Econ.)
 Lieftinck, Prof. Dr. P., The Hague
 Tinbergen, Prof. J., Netherlands Econ. Inst. (Statist., Econometrics, Bus. Cycles)
 Verrijn Stuart, Prof. Dr. C. A., Zeist
 Verrijn Stuart, Prof. Dr. G. M., Amsterdam
 Witteveen, Prof. Dr. H. J., Rotterdam

NEW ZEALAND

Billings, Prof. C. G., Otago Univ. (Econ.)
 Hight, Prof. Sir James, Canterbury Univ. College (Hist., Econ.)
 Murphy, Prof. B. E., Victoria Univ. Col. (Econ.)
 Neale, Dr. E. P., Chamber of Commerce, Auckland
 Simkin, Prof. C. G. F., Auckland Univ. Col. (Econ.)
 Tocker, Prof. A. H., Canterbury Univ. Col. (Econ.)

NORTHERN IRELAND

Isles, Prof. K. S., Queen's Univ. of Belfast (Econ.)

NORWAY

Einarsen, Prof. Johan, Univ. of Oslo (Econ.)
 Frisch, Prof. Ragnar, (Norwegian Acad. of Sci. and Letters) Oslo (Econ., Statist.)
 Haavelmo, Dr. Trygve, Univ. of Oslo (Econ.)
 Jahn, Prof. Gunnar, (Norwegian Acad.) Bank of Norway, Oslo (Econ.)
 Keilhau, Prof. Wilhelm, Univ. of Oslo (Econ., Statist.)
 Petersen, Prof. Erling, Com. High School, Bergen (Econ.)
 Rygg, Prof. Nicolai Th. N. (retired), (Norwegian Acad.) Oslo (Econ.)
 Schönheyder, Prof. Kristian (retired), (Norwegian Acad.) Oslo (Econ.)
 Sinding, Prof. Thomas, Univ. of Oslo (Econ.)
 Skaug, Dr. Arne, Central Bur. of Statist., Oslo (Director)
 Wedervang, Prof. Rector Ingvar B., (Norwegian Acad.) Com. High School, Bergen (Econ., Statist.)

PAKISTAN

Akhtar, Prof. Dr. Sardar Mohammad, Punjab University (Econ.)
 Hussain, Dr. Ahmed, Lucknow Univ. of Agric. Mktg., Eastern Bengal Govt. (Agric. Mktg.)
 Hyder, Dr. Lodi Karim (emeritus prof.) Muslim University (Econ.)

Junaid, Dr. M. H., Ministry of Econ. Affairs (Econ.)
 Mukhtar, Dr. Ahmed, Ministry of Econ. Affairs (Econ.)
 Iqbal, Dr. Anwar Qureshi, Ministry of Econ. Affairs (Agrarian Banking, Mktg.)

POLAND

Barbacik, Dr. E., Sobieskiego 7, Cracow
 Drwnowski, Prof. J., Higher School of Commerce, Warsaw
 Fierich, Prof. J., School of Commerce
 Gasiorowska, Prof. N., Univ. of Lodz
 Hagemeyer, Prof. W., School of Commerce, Warsaw
 Krzyzanowski, Prof. W., Univ. of Cracow
 Lipinski, Prof. Edward, Warsaw, Bank of Nat. Econ.)
 Mlynarski, Prof. F., Univ. of Cracow
 Oyrzanowski, Dr. B., Univ. of Cracow
 Skrzywan, Dr. Wacław, Cracow
 Szulc, Prof. Stefan, Warsaw, Central Statist. Office
 Trampczynski, Mr. W., Nat. Bank of Poland
 Wakar, Prof. A., Higher School of Commerce
 Zaleski, Prof. S., Univ. of Warsaw

PORTUGAL

Bensabat, Anizalak, Lisbon
 Costa Leite, Joao Pinto da, Minister of Fin., Coimbra
 Guerreiro, Amaro Duarte, Instituto Nacional de Estatistica, Res. Bur., Lisbon
 Monteiro, Armando Rodrigues, Lisbon (Fiscal Law)
 Pereira, Prof. Dr. A. A. Goncalves Inst. of Econ. and Fin.
 Ribeiro, Jose Joaquim Teixeira, Coimbra (Fin.)
 Silva, Fernando Emidio da, Lisbon (Fin. Sci.)
 Tovar de Lemon, Mr. Antonio, Instituto Nacional de Estatistica, Lisbon
 Ulrich, Ruy Ennes, Lisbon (Polit. Econ.)

RUMANIA

Cornateanu, Prof. Nicolas, Bucharest
 Dascovici, Prof. N.
 Ionescu-Sisesti, Prof. G., Bucharest

SCOTLAND

Birnie, A., Univ. of Edinburgh (Econ. Hist.)
 Black, D. C., Univ. of Glasgow
 Campbell, A. D., Univ. of Glasgow
 Gray, Prof. Sir Alexander, Univ. of Edinburgh
 Macfie, Prof. A. L., Univ. of Glasgow
 Nisbet, Prof. James W., Univ. of St. Andrews
 Ogilvie, Prof. A. G., Univ. of Edinburgh
 Rankin, Miss M. T., Univ. of Edinburgh

SOUTH AFRICA

Arndt, Prof. E. H. D., Registrar of Banks and Bldg., Pretoria (Banking)
 Burrows, Prof. H. R., Natal Univ. College (Econ., Com. Admin.)
 Busschau, Dr. W. J., Econ. to large mining group, Johannesburg
 de Kock, M. H., S. Africa Fed. Res. Bank, Pretoria (Central Banking)
 Franszen, Dr. D. G., Univ. of Stellenbosch (Econ.)
 Houghton, Prof. D. H., Rhodes Univ. College (Econ.)
 Hutt, Prof. W. H., Univ. of Cape Town (Com.)
 Kelly, Prof. T. H., Natal Univ. College (Com., Admin.)
 Lachmann, L. M., Univ. of Johannesburg
 Leslie, Prof. R., Univ. of Cape Town (Econ.)
 Richards, Prof. C. S., Univ. of Witwatersrand (Com. and Applied Econ.)
 Robertson, Dr. H. M.
 Schumann, Prof. C. G. W., Univ. of Stellenbosch (Com.)
 Steenkamp, Prof. W. F. J., Bd. of Trade and Ind., Pretoria (Banking, Com.)

Viljoen, Prof. S. P. du T., Univ. of Pretoria (Econ.)
 Wijnholds, Prof. H. W. J., Univ. of Pretoria (Com., Banking)

SPAIN

Alfonso Villaverde y Moris, Eulogio, Univ. of Laguna (Polit. Econ., Pub. Fin.)
 Algarra Postuis, Jaime, Univ. of Barcelona (Econ.)
 Alonso Villaverde y Moris, Eulogio, Univ. of Laguna (Polit. Econ., Pub. Fin.)
 Alvarez Cienfuegos, José, Univ. of Granada (Polit. Econ., Pub. Fin.)
 Alvarez, Valentin A., Univ. of Madrid (Econ.)
 Carande Thovar, Ramon, Univ. of Sevilla (Polit. Econ., Pub. Fin.)
 Castañeda Chornet, José, Univ. of Madrid (Econ.)
 Calceran y Gifuentes, Isaac, Univ. of Oviedo (Polit. Econ., Pub. Fin.)
 Gay y Fomer, Vicente, Univ. of Valladolid (Polit. Econ., Pub. Fin.)
 Lleo, José, Univ. of Madrid (Econ. of Forestry)
 Lojondio Irure, Ignacio, Univ. of Sevilla (Polit. Econ.)
 Naharro Mora, José M., Univ. of Barcelona (Polit. Econ., Pub. Fin.)
 Sebastian Herrador, Mariano, Univ. of Valladolid (Polit. Econ., Pub. Fin.)
 Tejero Nieves, Julio, Univ. of Salamanca (Polit. Econ., Pub. Fin.)
 Tena Artigas, Prof. Joaquin, Univ. of Madrid
 Torres Martinez, Manuel de, Univ. of Madrid (Econ.)
 Vergara Doncel, José, Univ. of Madrid (Agric. Econ.)
 Zumalacárregui Prat, José M., Univ. of Madrid (Polit. Econ., Pub. Fin.)

SWEDEN

Akerman, Prof. G., Univ. of Gothenburg (Theory of Prod., Capital Investment)
 Akerman, Prof. J., Univ. of Lund (Gen. Theory)
 Bagge, Prof. G., Univ. of Stockholm (Labor Prob.)
 Bjurling, Dr. O. A., Univ. of Lund
 Brismann, Prof. S., Univ. of Stockholm
 Carlson, Prof. S., Univ. of Com., Stockholm
 Fernholm, Docent T., Univ. of Gothenburg (Econ.)
 Gårdlund, Prof. T., Univ. of Stockholm (Econ. Hist.)
 Hammarskjöld, Docent D., Stockholm
 Heckscher, Prof. E., Univ. of Com., Stockholm (Econ. Hist.)
 Hogbom, Prof. I., Stockholm (Dean)
 Johansson, Docent A., Stockholm
 Josephy, Prof. B., Royal Tech. Inst., Stockholm
 Kock, Docent Prof. H. C. K., Univ. of Stockholm
 Kristenson, Docent F., Univ. of Com., Stockholm (Sci. of Govt.)
 Lindahl, Prof. E., Uppsala (Pub. Fin.)
 Lundberg, Prof. E., Univ. of Stockholm (Bus. Cycles)
 Montgomery, Prof. A., Univ. of Com., Stockholm (Econ. Hist.)
 Myrdal, Prof. G., Univ. of Stockholm
 Ohlin, Prof. B., Univ. of Com., Stockholm (Int. trade)
 Ohlson, J., Univ. of Stockholm
 Östlund, Docent A., Univ. of Stockholm
 Palander, Prof. T., Uppsala (Prob. of Monopoly)
 Sillén, Prof. O., Univ. of Com., Stockholm (Acctg.)
 Silverstolpe, Prof. G., Royal Tech. Inst., Stockholm
 Sundbom, Docent I., Univ. of Gothenburg
 Svernlund, Prof. I., Univ. of Stockholm (Structure of Ind.)
 Törnqvist, Prof. G., Univ. of Com., Stockholm (Mktg.)
 ter Vehn, Prof. A., Univ. of Gothenburg (Acctg.)
 Wahlund, P., Univ. of Stockholm (Statist.)

Welinder, Prof. C., Univ. of Lund (Pub. Fin.)
 Wold, Prof., Uppsala

SWITZERLAND

Amonn, Prof. Alfred, Univ. Bern (Polit. Econ., Fin. Sci.)
 Babel, Prof. Antony, Univ. Genève (Econ. Hist.)
 Bachmann, Prof. H., Handels-Hochschule, St. Gallen
 Bickel, Prof., Univ. of Zurich
 Biermann, Prof. Charles, Univ. de Neuchatel (Econ. Geog.)
 Blumenstein, Prof. E., Univ. Bern (Fiscal Sci.)
 Bohi, Dr. Hans, Technische Hochschule, Zurich
 Bongras, Prof. Eugene, Univ. de Fribourg (Hist. of Econ. Theory)
 Borle, Dr. Henri, Univ. de Lausanne (Polit. Econ., Com. and Nat. Econ.)
 Douguin, M., Institut Univ. Hautes Études Internationales
 Bosshardt, Prof. A., Handels-Hochschule, St. Gallen
 Brunner, Prof. K., Handels-Hochschule, St. Gallen
 Buchner, Prof., Univ. Zurich (Polit. and Soc. Econ.)
 Burky, Prof. Charles, Univ. de Genève (Human Geog.)
 Folliet, Prof. Edouard, Univ. de Genève (Com. Technique)
 Furland, Dr. Louis-Vladimir, Basle
 Gasser, Prof. Ch., Handels-Hochschule, St. Gallen
 Gasser, Prof. W., Handels-Hochschule, St. Gallen
 Golay, Prof. Jean, Univ. de Lausanne
 Gsell, Prof. W., Handels-Hochschule, St. Gallen
 Guggenheim, M., Institut Universitaire Hautes Études Internationales
 Gutersohn, Prof. H., Handels-Hochschule, St. Gallen
 Gygax, Prof. Paul, Univ. Zurich (Foreign Fin. Proc.)
 Hengartner, Prof. O., Handels-Hochschule, St. Gallen
 Hersch, Prof. Liepmann, Univ. de Genève (Statist.)
 Jequier, Dr. Charlie, Univ. de Lausanne (Tech. of Life Ins.)
 Jähr, Prof. W., Handels-Hochschule, St. Gallen
 Keller, Prof. Th., Handels-Hochschule, St. Gallen
 Kong, Dr. H., Handels-Hochschule, St. Gallen
 Kung, Prof. E., Handels-Hochschule, St. Gallen
 Lisowsky, Prof. A., Handels-Hochschule, St. Gallen
 Mantoux, M., Institut Universitaire Hautes Études Internationales
 Marbach, Prof. Fritz, Univ. Bern (Polit. Econ.)
 Milhaud, Prof. Edgard, Univ. de Genève (Polit. Econ.)
 Oules, Prof. Firmin, Univ. Lausanne (Polit. Econ., Statist., Hist. of Econ. Facts and Doct.)
 Rappard, Prof. William E., Univ. de Genève (Pub. Fin.)
 Roche, Dr. la, Technische Hochschule, Zurich
 Roepke, Prof. Wilhelm, Univ. Genève (Int. Econ.)
 Rosset, Prof. P. R., Univ. de Neuchatel (Polit. Econ.)
 Saitzew, Prof. Manuel, Univ. Zurich (Hist. of Soc. Econ.)
 Salin, Prof. E., Univ. Basel (Polit. Econ.)
 Schorer, Prof. Hans, Univ. de Fribourg (Statist., Fin. Sci.)
 Sieber, Prof. Hugo, Bern
 Silberschmidt, Prof., Univ. Zurich (Gen. Econ. Hist.)
 Terrier, Prof. Claudius, Univ. de Genève (Com. Econ.)
 Wagner, Prof. Valetin, Univ. Basel (Polit. Econ.)
 Widmer, Prof. O., Handels-Hochschule, St. Gallen
 Winkler, Prof. E., Handels-Hochschule, St. Gallen

UNION OF SOVIET SOCIALIST REPUBLICS

Bakulin, S. N., (Foreign Trade)
 Baransky, N. N., Acad. of Sci. of U.S.S.R. (Econ. Geog.)
 Batyrev, V. M., (Fin.)

Bogolepov, M. T., Acad. of Sci. of U.S.S.R. (Econ.)
 Chernomordik, D., (Nat. Income, Econ. Statis.)
 Ginsburg, I. S., (Econ. of Ind.)
 Granovski, E. L., (Econ. of Ind.)
 Kats, J., (Nat. Income, Econ. Statis.)
 Khachaturov, T. S., Acad. of Sci. of U.S.S.R. (Econ. of Transp.)
 Khromov, P. A., (Nat. Income, Econ. Statis.)
 Koganov, M. V., (Nat. Income, Econ. Statis.)
 Krasnolobov, I. M., (Nat. Income, Econ. Statis.)
 Leontiev, M. A., Acad. of Sci. of U.S.S.R. (Econ.)
 Lyachenko, P. I., Acad. of Sci. of U.S.S.R. (Econ. Hist.)
 Margolin, N., (Nat. Income, Econ. Statis.)
 Markus, B. L., (Econ. of Ind.)
 Maslov, P. P., Acad. of Sci. of U.S.S.R. (Econ.)
 Mishustin, D. D., (Foreign Trade)
 Notkin, A. (Nat. Income, Econ. Statis.)
 Ostrovitianov, K. V., Acad. of Sci. of U.S.S.R. (Econ.)
 Plotnikov, K. N., (Fin.)
 Ptukha, M. V., Acad. of Sci. of U.S.S.R. (Econ.)
 Rosenberg, D. I., Acad. of Sci. of U.S.S.R. (Econ.)
 Rotstein, F. A., Acad. of Sci. of U.S.S.R. (Hist. Econ.)
 Sitnin, V. K., (Econ. of Ind.)

Smit-Falkner, Marie, Acad. of Sci. of U.S.S.R. (Econ.)
 Strumilin, S. G., Acad. of Sci. of U.S.S.R. (Econ. Hist.)
 Trakhtenberg, S. A., Acad. of Sci. of U.S.S.R. (Econ.)
 Turetsky, Sh., (Nat. Income, Econ. Statis.)
 Varga, E. S., Acad. of Sci. of U.S.S.R. (Econ.)
 Vosnessensky, N. A., Acad. of Sci. of U.S.S.R. (Econ.)

WALES

Forrester, Prof. R. B., Univ. Col., Aberystwyth
 Parris, S., Univ. Col., Cardiff
 Thomas, Prof. Brinley, Univ. Col., Cardiff

YUGOSLAVIA

Bicanic, Prof., Univ. of Zagreb
 Kosir, Prof. M., Univ. of Ljubljana
 Macura, Mr. Milos, Statist. Inst. of Serbia, Belgrade
 Marinović, Prof., Univ. of Zagreb
 Markovic, Univ. of Belgrade
 Mirković, Prof. M., Univ. of Zagreb
 Vogelink, Dr. Dolfe, Dir. of Statist., Vice-pres. of Planning Com., Belgrade
 Vrančić, Prof. Univ. of Zagreb
 Vuco, Prof. N., Univ. of Belgrade
 Zujovic, Prof. Milan J., Belgrade

The following incomplete lists of Latin-American economists are presented with strong misgivings. Original plans included only European countries. Only after urgent requests did we assemble these last minute fragments. The list is submitted more in the form of a report of progress than as a final product.

ARGENTINA

Alizon Garcia, Jorge, Oficina de Investigaciones Economicas, Buenos Aires (Banking)
 Barral-Souto, Dr. Prof. José, Univ. de Buenos Aires
 Bravo, Guillermo, Banco Central de la Republica (Money and Banking)
 Bula, Clotilde, A., Ministerio de Hacienda, Buenos Aires, (Statis.)
 Bosio, Juan Honorio, Ministerio de Hacienda, Buenos Aires (Pub. Fin.)
 Campos, Eusebio
 Cereijo, José Ramón, Ministro de Hacienda, Univ. de Buenos Aires (Pub. Fin.)
 Coire, Francisco, Formerly Banco Central
 Cronejo, Benjamin, Univ. Nacional de Córdoba
 Coll Benegas, C., Formerly Banco Central (Banking)
 Dabiezies, Carlos, United Nations, Lake Success, N.Y. (Statis. Pub. Fin.)
 Dieulefait, Carlos E., Universidad Nacional del Litoral (Statis.)
 Dominguez, Loreto M., Montevideo, Uruguay (Nat. Income)
 Dorfman, Adolfo, United Nations, Lake Success, N.Y. (Develop.)
 Gagneux, A., Oficina de Investigaciones Economicas Buenos Aires (Invest.)
 Gomariz, José Antonio, Banco Central de la Republica (Money and Banking)
 Gomez del Rey, Elba, United Nations, Lake Success, N.Y. (Pub. Fin., Central Banking)
 Gonzalez del Solar, Julio, Banco de Guatemala Jarach, Dino (Pub. Fin.)
 Lascurain, Prof. Antonio, Univ. of Buenos Aires
 Malacortto, Raul, Formerly Banco Central
 Murua, José, Banco Central de la Republica (Pub. Debt)
 Prados Arrarte, Jesus (Banking and Int. Trade)
 Prebisch, Prof. Raul, Academia Nacional de Ciencias Economicas and Univ. of Buenos Aires (Money and Banking, Bus. Cycles)
 Rodriguez Arias, Prof. Julio, Universidad de Cuyo (Econ. Theory)
 Santos, José, Banco Central de la Republica (Banking)

Van de Velde, Osvaldo, Ministerio de Hacienda (Taxation)
 Yesari, Ferdo Enrique, Banco Central de la Republica (Int. Trade)

BOLIVIA

Alexander, Alfredo, Banco Central, La Paz (Banking)
 Antezana Paz, Franklin, Univ. Mayor de San Andres, La Paz (Econ.)
 Ballvian, Rene
 Bando Gutierrez, Jorge
 Bendaloza, Luis

BRAZIL

Aranha, Prof. José, Warrant Co., Ltd., São Paulo
 Bulhões, Octavio Gouvea de, Ministerio de Fazenda, Rio de Janeiro (Money, Banking, Bus. Cycles)
 Costa, Alfonso Almiro R., Conselho Tecnico de Economia e Finanzas (Pub. Acctg., Pub. Fin.)
 Costa Miranda, Oswaldo Gomes, Ministro do Trabalho, Rio de Janeiro
 Franco, Aldo B.
 Goudin, Eugenio, Faculdade de Ciencias Economicas, Rio de Janeiro (Econ. Develop., Money and Banking)
 Jochman, João, Instituto Brasileiro de Geografia e Estadística (Statis. Econ. Develop.)
 Kafka, Prof. Alexandre, Escola de Sociologia, São Paulo
 Kafuri, Dr. Jorge Felipe, Escola Politecnica, Rio de Janeiro (Money and Banking)
 Kingston, Prof. Jorge, Faculdade Nacional de Ciencias Econ., Rio de Janeiro, Fundação Getulio Vargas
 Lewinsohn, Richard Getulio (Money and Banking, Econ. Theory, Bus. Cycles)
 Last, Gilbert A., British Chamber of Commerce, São Paulo
 Levy, Herbert Victor, Banco da America, São Paulo
 Lima Campos, Aluzio Fragose, Rio de Janeiro
 Lyra Madeira, Dr. João, Instituto dos Industriarios, Rio de Janeiro
 Machado, Olyntho, Ministerio de Relacoes Exteriores (Money and Banking, Acctg.)

Melo, Alberto de Campos, Rio de Janeiro
 Montello, Prof. Jesse, Rio de Janeiro
 Morais, Otavio Alexander de, Fundação Getulio Vargas, Rio de Janeiro
 Mortara, Prof. Giorgio, Fundação Getulio Vargas, Rio de Janeiro (Statist. Popula.)
 Paranagua, Otavio
 Pokrovsky, J.
 Sannaio, Prof. Alde, Universidade do Brasil, Rio de Janeiro
 Silva, Benedicto, United Nations (Pub. Fin.)
 Silveira, Prof. Fernando Rodrigues da, Instituto de Educacao e Saude, Rio de Janeiro
 Simoens Lopez, Luis, Fundação Getulio Vargas, Rio de Janeiro
 Teixeira de Freitas, M. Antonio, Instituto Brasileiro de Geografia e Estadística (Statist. Econ. Develop.)

CHILE

Ahumada, Jorge, International Monetary Fund (Money and Banking)
 Almeyras, Domingo, Universidad de Chile (Statist.)
 Armamet, Daniel, Instituto de Economia
 Canto, Jorge del, International Monetary Fund (Money and Banking)
 Castro Lopez, Prof. Alberto, Santiago (Statist.)
 Coto Conde, Guillermo, Universidad de Chile (Econ. Theory)
 Crocco, Juan, Universidad de Chile (Econometrics)
 Fedres, M., Corporacion de Fomento (Econ. Develop.)
 Gandarilla, Guillermo, Universidad de Chile (Int. Trade)
 Illanes, Fernando, International Bank (Int. Trade)
 Iraneta, Pedro, Corporacion de Fomento (Econ. Develop.)
 Irrazabal, Ricardo, Banco Sud-Americano (Banking)
 Lagarrigue, Alfredo, Corporacion de Ventas del Salitre (Econ. Develop.)
 Letelier, Ricardo, Banco de Chile (Banking)
 Levine, Bawden, Flavian, Corporacion de Fomento (Econ. Develop.)
 Mardones Restat, Fernando, Corporacion de Ventas del Salitre (Econ. Develop.)
 Marfan, Alvaro, Universidad de Chile (Bus. Admin.)
 Marshall, Enrique, Univ. de Chile
 Maschke, Arturo, Banco de Chile (Banking)
 Max, Herman, Banco de Chile (Central Banking)
 d'Ottorne, Horacio, Universidad de Chile
 Pedregal, Guillermo del (Ins.)
 Ruiz, Felix, Banco Central (Balance of Payments)
 Salas Edwards, Ramon, Santiago
 Valenzuela, Humberto, Banco de Chile (Banking)

COLOMBIA

Arango, Luis Angel, Banco de la Republica, Bogota (Banking)
 Aguirre, Zamudio, Contaloria General, Bogota (Statist., Pub. Fin.)
 Alvarado, Manuel A., Ministerio de Hacienda, Bogota (Pub. Fin.)
 Botero de los Rios, Prof. Dr. German, Direccion Nacional de Estadística Bogota (Bus. Cycles)
 Cortes, Jesus Maria, Banco de la Republica, Bogota (Banking)
 Fadul, Miguel, Univ. Nacional Bogota (Statist., Agrarion Econ.)
 Guthardt, Prof. Emilio C., Formerly Banco Commercial, Antiagwana
 Jaramillo Restrepo, Gonzalo, Formerly Banco Commercial, Antiagwana
 Lleras Restrepo, Carlos, Dir. Sch. of Bus., of the Moder Inst.
 Murcia, Camacho, Efraim, Bogota
 Orozco, Miguel, Director del Presupuesto, Bogota (Pub. Fin.)
 Palacios Rudas, Contraloria General, Bogota (Statist.)
 Santos Rubio, Dr. Eduardo, Dir., Nacional de Estadística (Pub. Fin. Statist.)

Thori Casas, Luis, Universidad Nacional, Bogota (Statist.)
 Torres, Leonel, Banco de la Republica, Bogota (Banking)
 Valez, Agustin

COSTA RICA

Coronas, Angel, Banco Nacional de Costa Rica (Banking)
 Diettel, Walter, Universidad Nacional, San Jose (Pub. Fin.)
 Facio, Rodrigo, Universidad Nacional, San Jose (Money and Banking)
 Morales, Dr. Julio O., Turrialba (Agric. Econ.)
 Pena, Julio, Banco Nacional de Costa Rica (Money and Banking)

CUBA

Alienes Uroga, Prof. Julian, Camara de Comercio, Havana (Gen. Econ.)
 Alvarez Dias, Prof. José, University of Havana (Pub. Fin.)
 Boti, hijo Regino
 Castillo, Eugenio, United Nations, Lake Success, N.Y. (Econ. Develop.)
 Cobo, Juan B., Havana
 Farragut, Casto, Direccion del Censo Agricola, Havana (Agri.)
 Garcia Montes, Prof. Dr. Oscar (Emeritus) University of Havana (Pub. Fin.)
 Gonzalez, Dr. Eloy, Empresa Naviera de Cuba, Havana (Transportation)
 Guerra, Dr. José Antonio, Direccion de Estadística, Havana (Leg. and Fis. Policy)
 Guerra, Ramiro
 Irisarri, José M.
 Leza, Prof. Walterio, University of Havana (Pub. Fin.)
 Lopez Fresquet, Rufo, Treasury Dept., Havana (Leg. and Fis. Policy)
 Maestri, Raul
 Menocal, Prof. Juan M., University of Havana (Leg. and Fis. Policy)
 Pazos, Dr. Felipe, International Monetary Fund (Money and Banking)
 Pena, Juan M. Alfonso, Oficina Nacional de Censo y Estadística, Havana (Statist.)
 Pérez Cubillas, José M.
 Portela, Gerardo
 Torra, Jacinto
 Vivo, Hugo

DOMINICAN REPUBLIC

Romero Beltre, Angelica, Banco Central, Trujillo (Balance of Payments)
 Tolentino Rojas, Vicente, Direccion General de Estadística Trujillo (Statist.)
 Troncoso, Jesus Maria, Banco Central, Trujillo (Money and Banking)

ECUADOR

Carbo, Esteban F.
 Castro Intriaqui, Oswaldo, Quito
 Carbo, Luis Alberto
 Hurtado, Cristobal, Ministerio de Relaciones Exteriores, Quito
 Laso, Luis Eduardo
 Naranjo, Jorge
 Nunez, Nelson A.
 Nunez, Pedro L.
 Perez Chiriboga, Guillermo, Banco Central, Quito (Banking)
 Perez, Rodrigo
 Procaccia, Carlos, Banco Central, Quito (Banking)
 Riofrio, Eduardo

EL SALVADOR

Alfaro, Luis
 Chavarria, Manuel F.
 Rochac, Alfonso
 Serrano L. Antonio, Banco Central de Reserva (Money and Banking)
 Sol, Jorge, International Monetary Fund (Money and Banking)

Valdes, Victor Manuel, Secretaria de Economia (Econ. Develop.)

GUATEMALA

Gomez Robles, Julio, Univ. de San Carlos de Guatemala
Jimenez Pinto, Max, Banco de Guatemala (Banking)
Montealegre, Eduardo, Banco de Guatemala (Banking)
Noriega Morales, Manuel, President, Junta Monetaria Guatemala (Banking, Econ. Develop.)
Pinal, Jorge del, Univ. de San Carlos
Zea Gonzalez, Emilio, Banco de Guatemala (Central Banking)

HONDURAS

Arellano Bonilla, Roberto
Reina, Guillermo A., United Nations, Lake Success, N.Y. (Econ. Develop.)
Sandoval Angel

MEXICO

Alanis Patino, Emilio, Mexico, D. F. (Statist.)
Beteta, Ramon, Secretaria de Hacienda (Pub. Fin.)
Bosch Garcia, Pedro, Departamento de Control de Precios (Pub. Fin.)
Bravo Jimenez, Manuel, Banco de Mexico (Econ. Develop.)
Campos Salas, Octaviano, Universidad Nacional de Mexico (Pub. Fin.)
Carrillo Flores, Antonio, Nacional Financiera (Credit and Econ. Develop.)
Cecena, Gameo José Luis, Secretaria de Hacienda (Pub. Fin.)
Cosio Villegas, Daniel, Fondo de Cultura Economica (Econ. Theory)
Diaz Arias, Julian, Secretaria de Hacienda (Pub. Fin.)
Fernandez y Fernandez, Ramon, Secretaria de Recursos Hidraulicos (Agric. Econ.)
Fernandez Hurtado, Ernesto (Money and Banking)
Flores, Edmundo, Secretaria de los Bienes Nacionales (Statist. and Pop.)
Loyo G., Lic. Gilberto, Mexican Bur. of Statist.
Luna Olmedo, Agustin, Banco de Mexico (Money and Banking)
Marquez, Javier, International Monetary Fund (Money and Banking)
Martinez Cabanas, Gustavo, Direccion General de Inspeccion Administrativa (Pub. Fin.)
Martinez Ostos, Raul, International Monetary Fund (Money and Banking)
Novoa, Carlos, Banco de Mexico (Money and Banking)
Noyola, Juan, International Monetary Fund (Money and Banking)
Ocadiz, Julio, Banco de Mexico (Money and Banking)
Ortiz Mena, Raul, Mexican Embassy (Int. Trade)
Padilla Aragón, Enrique, Universidad Nacional de Mexico (Econ. Theory)
Pena, Moisés T. de la, Universidad Nacional de Mexico (Econ. Develop.)
Perez Lopez, Enrique, Nacional Financiera (Econ. Develop.)
Poulat de Durand, Josefina, Secretaria de Economia (Econ. Theory)
Ramirez Cabanas, Joaquin, Banco de Mexico (Money and Banking)
Rivera, Jose Antonio, Secretaria de Los Bienes Nacionales (Pub. Fin.)
Robles, Gonzalo, Secretaria de Recursos Hidraulicos (Econ. Develop.)
Rodriguez Adame, Julián, Banco del Comercio Exterior (Int. Trade)
Saenz, Josué, Secretaria de Hacienda (Money and Credit)
Saenz Hinojosa, Francisco, Secretaria de Hacienda (Pub. Fin.)
Salinas Lozano, Raul, Comision Tecnica de Investigaciones Economicas (Pub. Fin.)

Sanchez Sarto, Manuel, Universidad Nacional de Mexico (Econ. Hist.)
Servin, Armando, Secretaria de Hacienda (Pub. Fin.)
Silva Herzog, Jesús, Universidad Nacional de Mexico (Econ. Hist.)
Torres Gajtán, Ricardo, Nacional Financiera (Econ. Develop.)
Urquidí, Victor L., Mexican Embassy (Bus. Cycles)
Villasenor, Eduardo, International Bank (Money and Banking)
Zamora, Fernando, Secretaria de los Bienes Nacionales (Bus. Cycles)
Zamora, Francisco, Universidad Nacional de Mexico (Econ. Theory)

NICARAGUA

Baca Munoz, Alejandro
Cantarero, Luis Augusto
Montealegre, Eduardo
Optale, Carlos Rivas
Saona Sarria, Antiocho
Sanchez, Jesus

PANAMA

Sanchiz, Jose
Quesada, Luisa

PARAGUAY

Benitez, Ruben, Banco de la Republica, Asuncion (Money and Banking)
Solari, Dr. Carlos A., Direccion General de Estadística (Statist.)
Vera, Fernando
Zayas, Edison

PERU

Arca Parro, Alberto
Barreda Moller, Jose
Barreto, Emilio, Banco Central de Reserva, Lima (Banking)
Castanon Pasqual, Emilio, Superintendencia del Comercio Exterior, Lima (Int. Trade)
Dasso, David, Corporacion Peruana del Santa, Lima (Econ. Develop.)
Ferrero, Romulo
Lino Castillo, Juan, Universidad Catolica, Lima (Pub. Fin.)
Luna Vegas, Dr. Ricardo, Oficina Central de Estadística, Lima (Statist.)
Moll, Bruno, Univ. de San Marco
Ramirez Valdeavellano, Jose, Banco Central de Reserva (Banking)
Recararren, Pedro, Ministerio de Agricultura, Lima (Pub. Fin. Statist.)
Ureta del Solar, Guillermo, Universidad de San Marco, Lima
Vasquez Dias, Manuel, Corporacion Peruana del Santa, Lima (Econ. Develop.)
Vidal, Carlos A.
Vidal, Enrique, Superintendencia de Contribuciones, Lima (Pub. Fin.)

URUGUAY

Acevedo Alvarez, Dr. Eduardo, Montevideo
Berchesi, Nilo R., Ministerio de Hacienda, Montevideo (Pub. Fin.)
Boado, Prof. Fermín Carlos, Direccion de Estadística, Montevideo (Statist.)
Carlevaro, Dr. Luis I., Banco de la Republica, Montevideo
Castellanos, Pedro B., Ministerio de Hacienda (Pub. Fin.)
Charlone, Dr. Cesar, Montevideo
Dossinguit, Lonto M., Montevideo (Nat. Income)
Faroppa, Luis A., Facultad de Ciencias Economicas (Pub. Fin.)
La Gamma Acevedo, Mario, Ministerio de Hacienda (Money and Banking, Int. Trade)
Quijano, Dr. Carlos, Fac. de Ciencias (Econ.)
Serrato, José, Banco de Montevideo

Silveira Zorzi, Fermin, Banco de la Republica,
Montevideo (Banking)
Zaffaroni, Luis, Montevideo

VENEZUELA

Cabana, Dr. Luis, Ministerio de Relaciones Ex-
teriores, Caracas
Calatrava H., Alonzo, Caracas
D'Ascoli, Dr. Carlos A., International Monetary
Fund (Pub. Fin.)
Gorron dona, Dean J. J. González, Univ. Central
de Venezuela, Caracas and Banco Central (Bank-
ing)
Espinosa, Dr. Alfonso, Avenida La Estrella, San
Bernardino, Caracas
Hoek, Luis
Hurtado, Hector, Ministerio de Hacienda (Pub.
Fin.)
Lollet, Dr. C. M., Escuela de Economía, Ciudad
Universitaria, Caracas
Mayobre, José Antonio, Banco Central, Caracas
(Banking)
Moll, Dr. Roberto, Ministerio de Relaciones Ex-
teriores, Caracas

Montesino, José V., Direccion de Economía Agri-
cola, Caracas
Peltzer, Dr. Ernesto, Departamento de Estadística
and Univ. Central de Venezuela, Caraca
(Statist.)
Pérez Alfonso, Dr. Juan Pablo, Ministro d
Fomento, Caracas
Pérez Guerrero, Manuel, Ministerio de Hacienda
Caracas (Pub. Fin.)
Rojas-Gomes, Dr. Carlos, Jefe del Dept. d
Agronomía, Maracaibo
Sánchez Covisa, Dr. Joaquín, Cuartel Viejo
Balconcito 53-1, Caracas
Sánchez Sarto, Dr. Manuel, Corporacion Venezo-
lana de Fomento, Esquina de Santa Capilla
Caracas
Santacilla, E., Facultad de Economía (Money and
Banking, Int. Trade)
Tejera, Enrique
Uslar Pietri, Dr. Arturo, Columbia University
New York
Venegas Filardo, Dr. Pascual, Jefe de Redaccion d
"El Universal," Caracas

EXHIBIT II

LIST OF CHAIRMEN OR HEADS OF DEPARTMENTS OF ECONOMICS, DEANS OF SCHOOLS OF BUSINESS, AND DIRECTORS OF BUSINESS RESEARCH BUREAUS AND INSTITUTIONS IN SELECTED COLLEGES AND UNIVERSITIES

The list which follows contains names of the chairmen or heads of departments of economics only, deans of schools of business, and directors of economic research, labor relations institutes, bureaus of business, etc. This is not a complete list of all such administrators in American colleges and universities but represents, rather, a selected list of the names of the members of the American Economic Association who filled out and returned the 1948 *Directory* questionnaire, plus additions from miscellaneous sources which were readily available at the time. Only the larger institutions having substantial departments, schools, or institutes are represented. The inclusion of one-man departments or small clusters would unduly enlarge the list and hence defeat its main purpose. The *Educational Directory on Higher Education* of the United States Office of Education was consulted in this connection. In addition to the nucleus of names which have been gradually accumulated in the Secretary's Office, we consulted directories of the American Association of Collegiate Schools of Business and organizations such as the Industrial Relations Research Association, as well as some college and university catalogues which we had at hand. We also got some information by direct correspondence. Time and facilities did not permit tracing all duplications (we failed to ask that the department be indicated); nor were we able to fill many gaps.

We sent no follow-up inquiries to members who failed to return questionnaires; hence do not have a complete record of our own members. Again, not all administrators falling within the categories described are members of the Association.

We print this list with the realization that it may be outdated as soon as published, but once compiled it should be easier to keep up to date than if it remained an item in our files. We believe that members and others in the profession will find it useful and will help us improve it.

NOTE: AACSB and date after certain schools of business represent when they became members of the American Association of Collegiate Schools of Business. Dates of founding are indicated for university research divisions specializing in industrial relations.

- | | |
|---|---|
| <i>Air Force Inst. of Tech.</i> : Dean—Thomas F. McManus, Col. of Ind. and Engr. Admin. | <i>Beloit Col.</i> : Chmn.—Lewis Severson |
| <i>Univ. of Alabama</i> : | <i>Birmingham-Southern Col.</i> : Chmn.—Emory Q. Hawk |
| Dean—Lee Bidgood, School of Com. and Bus. Admin. (AACSB, 1929) | <i>Boston Univ.</i> : |
| Dir.—Herman H. Chapman, Bur. of Bus. Res., School of Com. and Bus. Admin. | Chmn.—Charles P. Huse |
| <i>Alabama Poly. Inst.</i> : Chmn.—Charles P. Anson | Chmn.—Douglas H. Bellemore, Col. of Bus. Admin. |
| <i>Albion Col.</i> : Chmn.—Walter A. Terpenning | Dean—William G. Sutcliffe, Col. of Bus. Admin. (AACSB, 1921) |
| <i>Alfred Univ.</i> : Chmn.—Henry C. Langer, Jr. | <i>Bowdoin Col.</i> : Chmn.—Warren B. Catlin |
| <i>Alma Col.</i> : Chmn.—Lyder L. Unstad | <i>Bowling Green Business Univ.</i> : Chmn.—Kenneth Spaulding |
| <i>American Univ.</i> : | <i>Bowling Green State Univ.</i> : Chmn.—Lloyd A. Helms |
| Chmn.—Fritz K. Mann | <i>Bradley Univ.</i> : Dean—Loyal G. Tillotson, School of Bus. Admin. |
| Dir.—Joseph E. Loftus, Teaching Inst. of Econ. | <i>Brooklyn Col.</i> : Chmn.—William H. Steiner |
| <i>Amherst Col.</i> : Chmn.—Colston E. Warne | <i>Brown Univ.</i> : Chmn.—Chelcie C. Bosland |
| <i>Univ. of Arizona</i> : Chmn.—Laurence R. Gray, Col. of Bus. and Pub. Admin. | <i>Bryn Mawr Col.</i> : |
| <i>Univ. of Arkansas</i> : | Chmn.—Mildred B. Northrop, Dept. of Econ. and Politics |
| Chmn.—Harold A. Dulan, Col. of Bus. Admin. | Chmn.—Florence Peterson, Dept. of Soc. Econ. |
| Chmn.—George E. Hunsberger | <i>Univ. of Buffalo</i> : |
| Dean—Paul W. Milam, Col. of Bus. Admin. (AACSB, 1931) | Chmn.—Ralph C. Epstein |
| <i>Baker Univ.</i> : Chmn.—Harold W. Guest | Dean—Harold M. Somers, School of Bus. Admin. (AACSB, 1930) |
| <i>Baldwin-Wallace Col.</i> : Chmn.—Jacob O. Kamm, School of Com. | <i>Butler Univ.</i> : Chmn.—Maurice O. Ross |
| <i>Barnard Col.</i> : Chmn.—Elizabeth F. Baker | |
| <i>Bates Col.</i> : Chmn.—J. Murray Carroll | |

Univ. of California:

Chmn.—Malcolm M. Davison
Dean—Ewald T. Grether, School of Bus. Admin. (AACSB, 1916)

Dir.—Clark Kerr, Inst. of Ind. Rela. (1945)

Univ. of California at Los Angeles:

Dean—Neil H. Jacoby, Col. of Bus. Admin. (AACSB, 1939)

Dir.—Edgar L. Warren, Inst. of Ind. Rela. (1945)

California Inst. of Tech.: Dir.—Robert D. Gray, Ind. Rela. Sec. (1939)

Carnegie Inst. of Tech.: Chmn.—George L. Bach
Catholic Univ. of America: Chmn.—Paul J. Fitzpatrick

Univ. of Chattanooga: Chmn.—William H. Weston, Jr.

Univ. of Chicago:

Chmn.—Theodore W. Schultz
Dean—Garfield V. Cox, School of Bus. (AACSB, 1916)

Dir.—Robert K. Burns and F. H. Harbison, Ind. Rela. Center (1945)

Univ. of Cincinnati:

Chmn.—William W. Hewett
Dean—Francis H. Bird, Col. of Bus. Admin. (AACSB, 1919)

City Col. of New York: Dean—Thomas L. Norton, School of Bus. and Civic Admin.

Claremont Colleges: Pres.—George C. S. Benson, Claremont Men's College

Clark Univ.: Chmn.—James A. Maxwell
Clemson Col. and South Carolina Agric. Exp. Sta.:

Chmn.—George H. Aull

Coe Col.: Chmn.—C. Ward Macy

Colby Col.:

Chmn.—Walter N. Breckenridge
Curtis H. Morrow

Colgate Univ.: Chmn.—Wilfred H. Crook

College of the Pacific: Chmn.—Charles B. Norman
Univ. of Colorado:

Chmn.—Earl C. Crockett
Dean—Elmore Peterson, School of Bus. (AACSB, 1938)

Colorado A & M Col.: Chmn.—Raymond T. Burdick

Columbia Univ.:

Chmn.—Carter Goodrich
Dean—Philip Young, School of Bus. (AACSB, 1916)

Dir.—C. Wright Mills, Labor Res. Div., Bur. of Applied Soc. Res.

Univ. of Connecticut:

Chmn.—William H. Carter, Jr.
Dir.—Myron H. Clark, Labor-mgt. Inst. (1946)

Cornell Univ.:

Chmn.—Frank A. Southard, Jr.
Dean—Paul M. O'Leary, School of Bus. and Pub. Admin.
Dir.—Milton R. Konvitz, School of Indus. and Labor Rela. (1945)

Creighton Univ.:

Chmn.—Lawrence A. Cusack
Dean—Floyd E. Walsh, Col. of Com.

Dalhousie Univ.: Dir.—L. Richter, Maritime Bur. of Indus. Rela. (1936)

Dartmouth Col.:

Chmn.—William A. Carter
Dean—Herluf V. Olsen, Amos Tuck School of Bus. Admin. (AACSB, 1916)

Davidson Col.: Dean—Cecil K. Brown, Faculty

Univ. of Dayton: Chmn.—Edmund B. O'Leary

Denison Univ.: Chmn.—Leland J. Gordon

Univ. of Denver:

Dean—Cecil Puckett, Col. of Bus. Admin. (AACSB, 1923)

Dir.—Fitzhugh L. Carmichael, Bur. of Bus. and Soc. Res.

Dir.—Alonzo B. May, Teaching Inst. of Econ. (Alfred P. Sloan Found.)

Dir.—Theodore H. Cutler, Bur. of Indus. Rela. (1946)

De Paul Univ.:

Chmn.—Frederick W. Mueller, Jr., Col. of Com.

Dean—Father Edward J. Kammer, Col. of Com.

DePaul Univ.: Chmn.—Hiram L. Jome

Univ. of Detroit:

Chmn.—Bernard F. Landuyt
Dean—Lloyd E. Fitzgerald, Col. of Com. and Fin.

Drake Univ.: Chmn.—William E. Alley

Duke Univ.: Chmn.—Calvin B. Hoover

Emory Univ.: Dean—Charles G. Siefkin, School of Bus. Admin.

Fenn Col.:

Chmn.—Clyde J. Crobaugh
John G. McGrew

Univ. of Florida:

Chmn.—Frank W. Tuttle
Dean—Walter J. Matherly, Col. of Bus. Admin. (AACSB, 1929)

Fordham Univ.:

Chmn.—Maurice I. Hart
Dean—William G. Griffith, School of Bus. (AACSB, 1939)

Franklin and Marshall Col.: Chmn.—Horace R. Barner

George Peabody Col. for Teachers: Chmn.—James E. Ward

Georgetown Univ.: Chmn.—Josef Solterer

George Washington Univ.: Chmn.—Donald S. Watson

Univ. of Georgia:

Dean—James E. Gates, Col. of Bus. Admin. (AACSB, 1926)

Dir.—William T. Hicks, Bur. of Bus. Res.

Gonzaga Univ.: Dean—Clifford A. Carroll, School of Bus. and Econ.

Goucher Col.: Chmn.—Elinor Pancoast

Harvard Univ.:

Chmn.—Harold H. Burbank
Dean—Donald K. David, Grad. School of Bus. Admin. (AACSB, 1916)

Haverford Col.: Chmn.—Howard M. Teaf, Jr.

Hofstra Col.: Chmn.—Henry II. Villard

Howard Col.: Rector—Roemilt Hardin

Hunter Col. of City of N. Y.: Chmn.—Nathan Reich

Univ. of Idaho: Chmn.—Ralph H. Farmer

Univ. of Illinois:

Chmn.—
Dean—Howard R. Bowen, Col. of Com.
Dir.—Phillips Bradley, Inst. of Labor and Indus. Rela. (1946)

Illinois Inst. of Tech.: Chmn.—Pearce Davis

Illinois Wesleyan Univ.: Chmn.—William T. Beadles

Indiana State Teachers Col.: Chmn.—Waldo F. Mitchell

Indiana Univ.:

Chmn.—Carroll L. Christenson
Dean—Arthur M. Weimer, School of Bus. (AACSB, 1921)

Iowa State Col.: Chmn.—William G. Murray

Iowa State Univ.: Dean—Chester A. Phillips, Col. of Com. (AACSB, 1923)

James Milkin Univ.: Chmn.—Charles Leese

Johns Hopkins Univ.: Chmn.—George H. Evans, Jr.

Univ. of Kansas: Dean—Leonard H. Axe, School of Bus. (AACSB, 1925)

Kent State Univ.: Chmn.—Hersel W. Hudson

Univ. of Kentucky: Dean—Cecil C. Carpenter, Col. of Com. (AACSB, 1926)

Lafayette Col.: Chmn.—Morrison Handsaker

Laval Univ.: Dir.—Gerald Tremblay, Dept. of Indus. Rela. (1946)

Lehigh Univ.:

Chmn.—Herbert M. Diamond
Dean—Neil Carothers, Col. of Bus. Admin. (AACSB, 1938)

Louisiana State Univ.:

Chmn.—Harlan L. McCracken
Dean—James B. Trant, Col. of Com. (AACSB, 1931)

Univ. of Louisiana: Chmn.—Charles W. Williams
Loyola Univ.:

Chmn.—Eneas B. Goodwin
Acting Dean—J. Raymond Sheriff, School of Com.

Macalester Col.: Chmn.—Forrest A. Young

Univ. of Maine: Chmn.—Himy B. Kirshen

Marquette Univ.:

Chmn.—Robert J. Barr
Dean—Thomas F. Divive, The Robert A. Johnston Col. of Bus. Admin. (AACSB, 1928)

Univ. of Maryland:

Chmn.—Carl J. Ratzlaff
Dean—John F. Pyle, Col. of Bus. and Pub. Admin. (AACSB, 1940)

Massachusetts Inst. of Tech.:
Chmn.—R. E. Freeman

Dir.—Douglas McGregor, Indus. Rela. Sec. (1937)

Massachusetts State Col.: Chmn.—Philip L. Gamble

McGill Univ.: Chmn.—Arthur Lermer, Sir George William Col.

McMurray Col. for Women: Chmn.—Constance L. Raymaker

Miami Univ.:

Chmn.—J. Marvin Peterson
Dean—E. M. McCracken, School of Bus. Admin. (AACSB, 1932)

Michigan State Col.: Chmn.—Herman J. Wyarden

Univ. of Michigan:

Chmn.—I(saiah) L(eo) Sharfman
Dean—Russell A. Stevenson, School of Bus. Admin. (AACSB, 1919)

Dir.—John W. Riegel, Bur. of Indus. Rela. (1934)

Middlebury Col.: Chmn.—Harry M. Fife

Mills Col.: Chmn.—Glenn E. Hoover

Millsaps Col.: Chmn.—E. S. Wallace

Univ. of Minnesota:

Dean—Richard L. Kozelka, School of Bus. Admin. (AACSB, 1920)

Dir.—Dale Yoder, Ind. Rela. Center (1944)

Univ. of Mississippi: Dean—Horace B. Brown, Jr., School of Com. and Bus. Admin. (AACSB, 1944)

Univ. of Missouri:

Chmn.—Russell S. Baunder
Dean—William L. Bradshaw, School of Bus. and Pub. Admin. (AACSB, 1926)

Montana State Univ.: Dean—Theodore H. Smith, School of Bus. Admin.

Univ. of Montreal: Dir.—Emile Bouvier, Indus. Rela. Dept. (1942)

Mount Holyoke Col.: Chmn.—Amy Hewes

Univ. of Nebraska:

Chmn.—Clarence E. McNeill
Dean—Earl S. Fullbrook, Col. of Bus. Admin. (AACSB, 1916)

Dir.—Edgar Z. Palmer, Dept. of Bus. Res.

Univ. of New Hampshire: Chmn.—Joseph E. Shafter

New Jersey Col. for Women: Chmn.—Francis W. Hopkins

Univ. of New Mexico:

Chmn.—Julian S. Duncan
Dean—Vernon G. Sorrell, Col. of Bus. Admin.

New School of Social Research:

Chmn.—Hans P. Neisser, Grad. Faculty of Polit. and Soc. Sci.

Dir.—Adolf Lowe, Res., Inst. of World Affairs

New York State Col. for Teachers: Chmn.—Josiah T. Phinney

New York Univ.:

Chmn.—Major B. Foster
Chmn.—Walter E. Spahr, School of Com., Accts., and Fin.

Chmn.—Emanuel Stein
Dean—John T. Madden, School of Com., Accts., and Fin. (AACSB, 1916)

Univ. of North Carolina:

Chmn.—Albert S. Keister, Woman's Col.

Chmn.—John B. Woosley

Dean—Dudley D. Carroll, School of Com.

(AACSB, 1923)

Dir.—Rex S. Winslow, Bur. of Bus. Serv. and Res.

Univ. of North Dakota: Dean—E. T. Towne,

School of Com. (AACSB, 1925)

Northeastern Univ.:

Chmn.—A. Howard Myers

Dean—Roger S. Hamilton, Col. of Bus. Admin.

Northwestern Univ.:

Chmn.—James W. Bell

Dean—Homer B. Vanderblue, School of Com.

(AACSB, 1916)

Univ. of Notre Dame: Chmn.—John H. Sheehan

Oberlin Col.: Chmn.—Harvey A. Wooster

Ohio State Univ.:

Chmn.—John I. Falconer

Dean—Walter C. Weidler, Col. of Com. and Admin. (AACSB, 1916)

Dir.—Viva B. Boothe, Bur. of Bus. Res.

Dir.—Carroll L. Shartle, Personnel Res. Bd. (1945)

Ohio Univ.:

Chmn.—Edwin T. Hellebrandt

Dean—Adolph H. Armbruster, Col. of Com.

Ohio Wesleyan Univ.: Chmn.—Vant W. Kebker

Oklahoma A. and M. Col.: Dean—Raymond D. Thomas, School of Com.

Univ. of Oklahoma:

Chmn.—Ronald B. Shuman

Chmn.—Floyd L. Vaughan

Dean—Arthur B. Adams, School of Bus. Admin.

(AACSB, 1926)

Dir.—Francis R. Cella, Bur. of Bus. Res.

Univ. of Omaha: Chmn.—Roderic B. Crane

Univ. of Oregon:

Chmn.—Calvin Crumbaker

Dean—Victor P. Morris, School of Bus. Admin.

(AACSB, 1923)

Pennsylvania State Col.: Chmn.—Carl W. Hasek

Univ. of Pennsylvania:

Chmn.—Raymond T. Bowman

Chmn.—Paul F. Gemmill, Grad. Group in Econ.

Dean—C. Canby Balderston, Wharton School of Fin. and Com. (AACSB, 1916)

Dir.—Hiram S. Davis, Ind. Res. Dept., Wharton School

Univ. of Pittsburgh:

Chmn.—Raymond F. Blackburn

Dean—Vincent W. Lanfear, School of Bus. Admin. (AACSB, 1916)

Dir.—Jesse P. Watson, Bur. of Bus. Res.

Pomona Col.: Chmn.—Floyd A. Bond

Princeton Univ.:

Chmn.—Richard A. Lester

Dir.—Donald H. Wallace, Grad. Program, Woodrow Wilson School of Pub. and Int. Affairs

Dir.—J. Douglas Brown, Indus. Rela. Sec. (1922)

Purdue Univ.: Chmn.—James A. Estey

Queen's Univ.: Chmn.—J. C. Cameron, Dept. of Indus. Rela. (1937)

Rhode Island State Col.: Chmn.—Robert Rockafellow, School of Bus. Admin.

Univ. of Richmond: Chmn.—Herman P. Thomas

Ripon Col.: Chmn.—Sidney W. Salsburg

Roosevelt Col.:

Chmn.—Walter A. Weisskopf

Dean—Harland H. Allen, Com.

Rutgers Univ.:

Chmn.—Salomon J. Flink, School of Bus. Admin.

Dean—George R. Esterly, School of Bus. Admin. (AACSB, 1941)

Chmn.—Francis W. Hopkins, N. J. Col. for Women

Chmn.—William N. Leonard, Univ. Col.

Dir.—Norman C. Miller, Inst. of Mgt. and Labor Rela. (1947)

St. Ambrose Col.: Chmn.—William J. Collins

- St. Lawrence Univ.*: Chmn.—Walter H. Delaplane
St. Louis Univ.:
 Chmn.—Bernard W. Dempsey
 Regent: Bernard W. Dempsey, School of Com. and Fin.
St. Olaf Col.: Chmn.—Tillman M. Sogge
Univ. of Saskatchewan: Chmn.—W. W. Swanson
Simmons Col.: Chmn.—Weldon W. Welfing
Smith Col.: Chmn.—William A. Orton
Univ. of South Carolina: Dean—Samuel M. Derick, School of Bus. Admin.
Univ. of South Dakota: Dean—Robert F. Patterson, School of Bus.
Univ. of Southern California:
 Chmn.—Joy L. Leonard
 Dean—Park J. Ewart, Head of Dept. of Gen. Bus.
 Dean—Reid T. McClung, Col. of Com. and Bus. Admin. (AACSB, 1922)
Southern Illinois Univ.: Chmn.—Lewis A. Maverick
Southern Methodist Univ.: Dean—Lawrence H. Fleck, School of Bus. Admin. (AACSB, 1925)
Southern Univ. and A. & M. Col.: Chmn.—Samuel E. Warren
Southwestern: Chmn.—Ralph C. Hon
Stanford Univ.:
 Chmn.—Bernard F. Haley
 Dean—J. Hugh Jackson, Grad. School of Bus. (AACSB, 1926)
 Dir.—Merrill K. Bennett, Food Res. Inst.
 Dir.—John P. Troxell, Div. of Ind. Rela. (1936)
Swarthmore Col.: Chmn.—Clair Wilcox
Syracuse Univ.:
 Chmn.—Carl R. Bye, Maxwell School of Citizenship and Pub. Affairs
 Dean—Robert E. Stone, Col. of Bus. Admin. (AACSB, 1920)
 Dir.—Sidney C. Sufrin, Bus. and Econ. Res. Center
Temple Univ.:
 Chmn.—Russell H. Mack
 Dean—Harry A. Cochran, School of Bus. and Pub. Admin. (AACSB, 1934)
Univ. of Tennessee:
 Chmn.—Frank B. Ward
 Dean—Theodore W. Glocker, Col. of Bus. Admin. (AACSB, 1941)
Texas A. and M.: Chmn.—Clinton W. Randle
North Texas Agric. Col.: Chmn.—A. B. Armstrong
Texas State Col. for Women: Chmn.—Aldon S. Lang
Univ. of Texas:
 Chmn.—Edward E. Hale
 Dean—James A. Fitzgerald, Col. of Bus. Admin. (AACSB, 1916)
 Dir.—John R. Stockton, Dept. of Bus. Serv.
Univ. of Toronto: Dir.—Vincent W. Bladen, Inst. of Ind. Rela. (1945)
Trinity Col.: Chmn.—Lawrence W. Towle
Tulane Univ.: Dean—L. J. Buchan, Col. of Com. and Bus. Admin. (AACSB, 1916)
Univ. of Tulsa:
 Chmn.—Karl E. Ashburn
 Edgar L. Owen
Union Col.: Chmn.—William W. Bennett
Upsala Col.: Chmn.—Maurice S. Trotta
Univ. of Utah: Dean—Dilworth Walker, School of Bus. (AACSB, 1936)
Valparaiso Univ.: Chmn.—Erwin E. Goehring
Vanderbilt Univ.:
 Chmn.—George W. Stocking
 Dir.—George W. Stocking, Inst. of Res. and Training in Soc. Sci.
Vassar Col.: Chmn.—Mabel Newcomer
Univ. of Vermont: Chmn.—Philipp H. Lohman
Univ. of Virginia:
 Chmn.—Tipton R. Snavelly, McIntire School of Com. (AACSB, 1925)
 Dir.—Wilson Gee, Inst. for Res. in Soc. Sci.
Wabash Col.: Chmn.—Ferguson R. Ormes
Walla Walla Col.: Chmn.—Wilbert M. Schneider, Dept. of Bus. Admin.
Washington Univ.: Acting Dean—Isaac Lippincott, School of Bus. & Pub. Admin. (AACSB, 1921)
Washington and Jefferson Col.: Chmn.—Maurice C. Waltersdorf
Washington and Lee Univ.:
 Chmn.—M. Ogdon Phillips
 Dean—G. D. Hancock, School of Com. and Admin. (AACSB, 1927)
State Col. of Washington:
 Chmn.—Maurice W. Lee
 Dean—Maurice W. Lee, School of Econ. and Bus.
Univ. of Washington:
 Chmn.—John R. Huber
 Acting Dean—Henry A. Burd, Col. of Econ. and Bus.
 Dir.—Nathanael H. Engle, Bus. Res.
 Dir.—William S. Hopkins, Inst. of Labor Econ. (1946)
Wayne Univ.:
 Chmn.—Sammuel M. Levin
 Dir.—Edward L. Cushman, Inst. of Indus. Rela. (1946)
Wellesley Col.: Chmn.—Lawrence Smith
Wesleyan Univ.: Chmn.—Kossuth M. Williamson
West Virginia Univ.:
 Chmn.—Raymond W. Coleman
 Dir.—Ralph B. Tower, Bur. Bus. Res.
Western Michigan Col.: Chmn.—Floyd W. Moore
Western Reserve Univ.: Chmn.—Marvin J. Barloon
Whittier Col.: Chmn.—Peter F. Palmer
Col. of William and Mary: Chmn.—Charles F. Marsh, Dept. of Bus. Admin.
William Jewell Col.: Chmn.—John B. Moore
Williams Col.: Chmn.—Walter B. Smith
Univ. of Wisconsin:
 Chmn.—Edwin E. Witte
 Dean—Fayette H. Elwell, School of Com. (AACSB, 1916)
 Dir.—R. W. Fleming, Indus. Rela. Center (1948)
Wittenberg Col.: Dir.—Daniel T. Krauss, Bus. Admin.; Special Schools
College of Wooster: Chmn.—Alvin S. Tostlebe
Yale Univ.:
 Chmn.—Kent T. Healy
 Dir.—E. Wight Bakke, Labor and Management Center (1945)

EXHIBIT III

AMERICAN ECONOMIC ASSOCIATION FOREIGN EXCHANGE LIST

ARGENTINA

Anales de la Academia de Ciencias Economicas,
La Academia de Ciencias Economicas, Buenos
Aires, Argentina.

Biblioteca de la Facultad de Ciencias Economicas,
1743 Charcas 1743, Buenos Aires, Argentina.

Revista de Ciencias Economicas,
Facultad de Ciencias Economicas, Universidad de
Buenos Aires, Calle Cordoba 2122, Buenos Aires,
Argentina.

Editors: Juan Llamazares, José Tibaudin, Ne-
llo Benito Cattaneo, Enrique Lorenzo

*Revista del Instituto de Economia y Tecnica Pub-
licitaria*,

Facultad de Ciencias Economicas, Instituto de
Economia y Tecnica Publicitaria, Universidad
Nacional de Cordoba, Cordoba, Argentina.

AUSTRALIA

Austral-Asia,
Australian Institute of International Affairs,
Kurrajong House, 17 Collins St., Melbourne,
Australia.

Commonwealth Statistician,
Canberra, F.C.T., Australia.

Economic Record,
The University, Melbourne, N.3, Victoria, Aus-
tralia.

Editor: G. A. Weller
Editorial Board: S. J. Butlin, C. G. F. Sim-
kin, W. L. Raw, E. F. Neale, J. A. La
Nauze

AUSTRIA

Berichte und Informationen,
Austrian Research Institute for Economics and
Politics, Schwarzstrasse 21, Salzburg, Austria.

Editor-in-Chief: Hans Zeilinger
Department editors: Dr. Lujo von Tončić, Dr.
Börs, Hans Heinrich Graf Coudenhove-Calergi,
Rudolf Voggenhuber

BELGIUM

Annales de Sciences Economiques Appliquées,
Institut des Sciences Economiques Appliquées
de l'Univ., 2 Rue des Doyens, Louvain, Bel-
gium.

Director of Editorial Committee: E. Dory, U.
Vaes

*Bulletin de l'Institut de Recherches Economiques
et Sociales*,

2, Rue des Doyens Université Catholique de
Louvain, Louvain, Belgium.

Editor: M. Y. Urbain

La Vie Economique et Sociale,
13, Rue du Prince, Antwerp, Belgium.

BRAZIL

Revista de Economia e Estatística,
Diretoria de Estatística da Producao, Minis-
terio da Agricultura, Rio de Janeiro, Brazil.

CANADA

Canadian Banker,
Box 98, Outremont Post Office, Montreal 8,
Quebec, Canada.

Editor: F. A. Knox (Queen's Univ.)

*Canadian Journal of Economics and Political Sci-
ence*,

273 Bloor St., W., Toronto, Canada.

Managing Editor: G. A. Elliott
Board of Editors: S. D. Clark, J. A. Corry,
W. B. Hurd, B. S. Keirstead

International Labour Review,
International Labour Office, Library, c/o McGill
University, Montreal, Canada.

Labour Gazette,
Department of Labour, Librarian, Confederation
Building, Ottawa, Canada.
McGill University, Dept. of Econ., Montreal,
Canada.

CHINA

Nankai Social and Economic Quarterly,
Nankai Institute of Economics, Shapingpa,
Chungking, China.

COLOMBIA

*Revista Colegio Mayor de Nuestra Senora del
Rosario*,
Apartado 72, Bogota, Colombia.

CUBA

Revista Cubana de Economia,
Teniente Rey No. 405, Havana, Cuba.

CZECHOSLOVAKIA

Narodohospodarsky Obzor,
Staromestke nam 12, Prague I, Czech.

The Statistical Bulletin of Czechoslovakia,
State Statistical Office of Czechoslovak Republic,
Belskeho 2, Prague VII, Czech.

DENMARK

National Økonomisk Tidsskrift,
Norregade 49, IV, Copenhagen, Denmark.
Editor: S. Gammelgaard Jacobsen

Nordisk Tidsskrift for Teknisk Økonomi,
Statistisk Laboratorium, Univ. of Copenhagen,
Copenhagen, Denmark.

Editor in chief: H. P. Christensen
Associate editors: R. K. Kristensson, I. Jantzen

Økonomi og Politik,
Institutet for Historie og Samfunds økonomi,
Sankt Peders Straede, Copenhagen 5, Denmark.
Editors: S. Henningsen, P. Winding

ENGLAND

Bankers' Magazine,
85 London Wall, London, E.C., England.

Economic Digest,
Joint Council for Monetary and Economic Re-
search, 18 South St., London W. 1, England.

Economic Journal,

Marshall Library, Downing St., Cambridge, England.

Editors: R. F. Harrod, E. A. G. Robinson

Fabian Society, 11 Dartmouth St., Westminster S.W. 1, London, England.

H. M. Stationery Office, Princes St., London, S.W. 1, England.

International Affairs,

Royal Institute of International Affairs, 10 St. James's Sq., London, S.W. 1, England.

Editor: Margaret Cleeve

Journal of Royal Statistical Society,

4 Portugal St., Kingsway, London, W.C. 2, England.

Editors: A. B. Hill, C. O. George, M. G. Kendall

Lloyds Bank Monthly Review,

Lloyds Bank, Ltd., 71 Lombard St., London, E.C. 3, England.

Editor: Alwyn Parker

Economica,

London School of Economics and Political Science, Houghton St., Aldwych, London, W.C. 2, England.

Acting Editors: F. A. Hayek, T. S. Ashton
Editorial Board: R. G. D. Allen, E. H. Phelps Brown, Sir A. M. Carr-Saunders, J. E. Meade, Sir Arnold Plant, L. Robbins, R. S. Sayers.

The Manchester School,

Dept. of Economics, The University, Manchester 13, England.

Editor: J. Jewkes

Oxford Economic Papers,

Institute of Statistics, Univ. of Oxford, Oxford, England.

Editors: F. A. Burchardt, G. D. N. Worswick

Review of Economic Studies,

Houghton St., Aldwych, London, W.C. 2, England.

Managing Editor: U. K. Hicks

Editorial Committee: N. Kaldor, A. Radomysler, A. P. Lerner, O. Lange

Sociological Review,

Le Play House, 35 Gordon Sq., London, W.C. 1, England.

Subject Index to Periodicals,

Chaucer House, Malet Pl., London, W.C. 1, England.

FINLAND

Ekonomiska Samfundets Tidskrift,

7 Kronbernsgratan, Helsingfors, Finland.

Editor: Hugo E. Pipping

FRANCE

Bulletin Analytique de Documentation Politique, Economique et Sociale Contemporaine,

27, rue Saint-Guillaume, Paris VII, France.

Chambre de Commerce de Paris, 27, Ave. de Friedland, Paris VIII, France.

Documentation Economique,

Institut National de la Statistique et des Etudes Economiques, 127, Faubourg Saint-Honoré (8),

Paris, France.

Committee of Directors: F. Louis Closon, André Piatier, Robert Mossé, Pierre Vigreux

Etudes et Conjoncture,

Blue series—*Economie Mondiale*, Red series—*Union Française*, Institut National de la Statistique et des Etudes Economiques, 127 Faubourg Saint-Honoré (8), Paris, France.

Director: A. Piatier

Institut National de la Statistique et des Etudes Economiques, 127 Faubourg Saint-Honoré, Paris, France.

Population,

Institut National d'Etudes Démographiques, 20, Rue de la Baume, Paris 8, France.

Director: A. Sauvy

Revue d'Economie Politique,

22 Rue Sofflot, Paris, France.

Editors-in-chief: Charles Rist, René Courtin, Georges Lutfalla

Revue d'Histoire Economique et Sociale,

M. Jean Weiller, Faculté de Droit, Poitiers (Vienne), France.

Board of editors: A. Aftalion, E. Dolléans, D. Villey, G. Bourgin, E. Labrousse, J. Weiller

Revue Internationale des Industries Agricoles,

Commission Internationale des Industries Agricoles, 18, Ave. de Villars, Paris VII, France.

Editor-in-Chief: Henry François Dupont

Journal de la Société de Statistique de Paris,

Secrétaire Général, 87, rue de Richelieu, Paris 2, France.

GERMANY

Zeitschrift für die Gesamte Staatswissenschaft,

University of Münster, Westphalia, British Zone, Germany

Editor: Walter Hoffman

HOLLAND

De Economist,

Nederlandsch Economisch Instituut, Frankestraat 42, Haarlem, Holland.

Editors: P. Hennipman, P. B. Kreukniet, Th. Ligthart, N. J. Polak, J. Tinbergen, H. M. H. A. Van Der Valk, C. A. Verrijn Stuart, G. M. Verrijn Stuart, F. de Vries

La Vie Economique et Sociale,

(published in Dutch under name "Economisch en Sociaal Tijdschrift")

Managing editor: R. Van Ooteghem

Editorial Board: F. Willaert, A. Muller, K. du Bois de Vroylande, E. De Schaepdrijver, J. Legrand, L. Baudez.

Maandschrift "Economie",

Bredaseweg 57, Tilburg, Holland.

Editors: N. A. Kaag, M. J. H. Cobbenhagen, P. P. v. Berkum

Openbare Financien,

Emmalaan 2, Haarlem, Holland.

Director: J. A. Monod de Froideville

HUNGARY

Journal de la Société Hongroise de Statistique,

Guday Laszlo-Utca 1, Budapest II, Hungary.

Managing Editor: Louis Thirring

INDIA

India Quarterly,
Indian Council of World Affairs, 8A, Kashi
House, Connaught Place, New Delhi, India.

Indian Journal of Economics,
The University, Allahabad, India.

Managing Editor: S. Prasad
Editorial Board: M. C. Munshi, B. R. Shenoy,
A. Qadir, D. Ghosh, M. K. Ghosh

Sankhya,

Indian Journal of Statistics, Indian Statistical
Institute, Statistical Laboratory, Presidency Col-
lege, Calcutta, India.

Editor: P. C. Mahalanobis

ISRAEL

Labour Studies Quarterly,
Social Research Institute, Tel-Aviv, Israel.
(P.O.B. 12)

Editor: A. Kanievsky

ITALY

Associazione societa italiane per azioni Piazzzi
Esedra 47, Rome, Italy.

La Comunità Internazionale,
Società Italiana per la Organizzazione Inter-
nazionale Palazzetto di Venezia, Via S. Marco 3,
Rome, Italy.

Editor: Sergio Steve
Directors: R. Ago, L. Salvatorelli, E. Vanoni

Critica Economica,
Centro Economico per la Ricostruzione, Via
Palestro, 68, Rome, Italy.

Director: Antonio Pesenti
Editor-in-Chief: Vittorio Angiolini

Economia Agraria,
Rome, Italy.
Director: A. Serpieri
Co-directors: A. Brizi, G. Medici

Genus,
10, via delle Terme di Diocleziano, Rome 30,
Italy.

Giornale degli Economisti e Annali di Economia,
Università Commerciale Luigi Bocconi, Milan,
Italy.

Director: Giovanni Demaria
Committee: R. Benini, C. Bresciani Turrone,
G. del Vecchio, G. Ugo Papi

Congiuntura Economica,
Istituto per gli Studi di Economia, Via Melzi
D'Eril 20, Milan, Italy.

La Nuova Rivista di Diritto Commerciale,
Diritto dell'Economia Diritto Sociale, Univer-
sità di Pisa, Pisa, Italy.

Director: L. Mossa

Rivista di Economia Agraria,
Istituto Nazionale di Economia Agraria, Casella
Postale, 583, Bologna, Italy.

Statistica,
Istituto di Statistica, Università di Bologna, Via
Belmeloro, 1, Bologna, Italy.

Editor in chief: Antonio Guiffre

Vita Economica,
V. le delle Province 28, Rome, Italy.
Director: A. Amato

MEXICO

Revista de Economia,
Palma Norte 308, Desp. 211-213, Mexico, D. F.

Revista de Economía y Estadística,
Ramon Beteta, Director General, Secretaria de
la Economía Nacional, Mexico, D. F.

Revista de Hacienda,
Departamento Autonomo de Prensa y Publicidad,
Bucareli 12, Despacho 211, Mexico, D. F.

Revista Mexicana de Sociología,
Instituto de Investigaciones Sociales, Calle del
Lic. Verdad numero 3, Mexico, D. F.

Director: Lucio Mendieta y Nuñez

El Trimestre Económico,
Fondo de Cultura Económica, Pánuco, 63, Mex-
ico, D. F.

Directors: D. Cosío Villegas, E. Martínez
Adame, F. Villaseñor, V. L. Urquidí

MOROCCO

Bulletin Économique du Maroc,
Société d'Études Économiques Sociales et Statis-
tiques, 7, Rue Le Verrier, Rabat, Morocco.
Editor: Jacques Milleron

POLAND

Biblioteka Uniwersytecka w Warszawie, Warsaw,
Poland.

Library of the Polish Parliament, Director, Das-
zynskiego 4, Warsaw, Poland.

Polish Institute for Economic Research, Krak.
Przedmiescie 46/48, Warsaw, Poland.

Ekonomista,
Polskie Towarzystwo Ekonomiczne, Redakcja
"Ekonomisty," Nowy Swiat 49, Dom Ekonomis-
tow Polskich, Warsaw, Poland.

Editor: Edward Lipinski
Editorial Committee: A. Krzyzanowski, E.
Taylor, S. Zaleski

SPAIN

Boletín de Estudios Económicos,
Asociación de Licenciados en Ciencias, Uni-
versidad Comercial de Deusto, Bilbao, Spain.

Editor-in-chief: Sebastián Mantilla
Managing editor: J. R. Lacín

Documentación Económica,
Instituto de Estudios Políticos, Plaza de la Marina
España, Madrid, Spain.

Director: D. José Vergara

Revista de Archivos, Bibliotecas y Museos,
Biblioteca Nacional, Madrid, Spain.

SWEDEN

Ekonomisk Tidskrift,
Malmorgsgatan 8, Stockholm 16, Sweden.

Editors: E. Lundberg, J. Svennilson
Committee: E. Lindahl, B. Ohlin, G. Aker-
man, J. Akerman

SWITZERLAND

Aussenwirtschaft,
Schweizerisches Institut für Aussenwirtschafts
und Marktforschung, Bahnhofplatz 7, St. Gallen,
Switzerland.

Editorial Committee: H. Bachmann, A. Boss-
hardt, E. Gsell, W. A. Jöhr, Th. Keller.

International Labour Review,
International Labour Office Library, Geneva,
Switzerland.

Kyklos,

Bubenberplatz 6, Bern, Switz.

Director: A. Lang

Politeia,Institut International des Sciences Sociales et
Politiques, Université de Fribourg, Fribourg,
Switzerland.*Schweizerische Zeitschrift für Volkswirtschaft und
Statistik*,Archives Economique Suisse, Kollegienhaus,
Basel, Switzerland.

Editor: V. F. Wagner

United Nations, The Library, Geneva, Switzer-
land.

UNION OF SOUTH AFRICA

South African Journal of Economics,P. O. Box 5316, Johannesburg, Union of South
Africa.

Managing Editor: C. S. Richards

Editors: W. J. Busschau, H. M. Robertson

U.S.S.R.

World Economics and Politics,Institute of World Economics and Politics
Volchonka 14, Moscow, U.S.S.R.Library of Social Sciences, Academy of Science
of U.S.S.R., Ul. Frunze 11, Moscow 19, U.S.S.R

URUGUAY

Revista de Economía,

Rincón 593, Montevideo, Uruguay

Director: Carlos Quijano

Sr. Contador General de la Nación don Raul A.
Previtali, Calle Colonia 1089, Montevideo, Uru-
guay.Sociedad Uruguaya de Economía Política, Prof.
Juan Rodríguez López, Presidente, Vasquez
Vega 1135, Montevideo, Uruguay.

VENEZUELA

Revista del Ministerio de Fomento,

P.O. Box 1489, Caracas, Venezuela.

EXHIBIT IV

THE PROFESSION OF ECONOMIST

The brief statement which follows represents an initial effort to describe what an economist is and what he does and what may be expected by those who contemplate the study of economics as a preparation for a career.

The attempt to formulate an explanation of "economist" as a profession was originally prompted by a request to the Association from the office of the National Roster of Scientific and Specialized Personnel (now a branch of the United States Employment Service of the Department of Labor). The first draft submitted by the Secretary was pitched at too high a professional level and was redrafted by the National Roster staff to meet the needs of those seeking vocational information. This version did not meet our approval and we were given an opportunity to make further criticisms and suggestions. The description in its present form owes its character largely to the revisions made by a committee consisting of F. W. Fetter, Fritz Machlup, H. S. Ellis, and your Secretary.

DESCRIPTION OF THE PROFESSION OF ECONOMIST

Occupational Summary

Economists study the whole process through which man makes a living and satisfies his wants for food, shelter, service or amusement, and the conditions favoring or hampering his economic development. This includes where, how and what man produces, how goods and services are distributed and paid for. They study the organization of industries; the labor supply and its use; the commercial banking and credit structure and government finance, both local and national; international trade and how it is financed; the national income and wealth, its production and distribution; the growth and shifts in population; standards of living; the use and conservation of land and natural resources. The objective of economists is to point out what policies and programs in industry or government will aid in the development of an industry or will facilitate the growth of trade and raise the individual's standard of living. Many economists are college teachers, others are in the employ of industry or government serving as statisticians, research analysts or advisors on economic policies and programs.

Economists study in their basic training all branches of economic theory. Some specialize in one or more branches since many of these subjects tend to overlap or merge.

Major Branches

1. *Economic Theory*: The economist specializing in economic theory is familiar with the history of economic institutions and practices, and makes a comparative and analytical examination of past and present systems of economic organization (e.g. feudalism, state socialism, capitalism, etc.) and of the systems of thought underlying these organizations.
2. *Money, Banking, and Finance*: Economists specializing in this branch study the nature and functions of money and banks, the means by which banks create purchasing power, and devices used to regulate amount of bank lending. They study forms of credit and credit instruments, and the relationship of money purchasing power to levels of economic activity. The fiscal economist studies the ways in which government is financed and public funds are spent; the effects of taxation and spending upon business activity as a whole; and plans a distribution of taxes equitable for all elements of the population.
3. *Industry*: The economist specializing in industry studies forms of business organizations, with arrangements for the production and marketing of goods and services and thus studies costs and prices, private investment policies, wholesale or retail trade, business trends, regulation by

government of industrial monopoly and industry generally. The economist may specialize in one or more specific industries, either non-manufacturing, such as forestry, or construction; or manufacturing, such as food, textiles, lumber, paper, iron, steel, petroleum or rubber.

In the transportation and public utilities industries he studies rates, valuations, traffic or use of service, and materials as they affect railways; aviation; water transportation; electric power and gas; highway, bus and truck transportation; radio and radio broadcasting; and wire communications. He also studies the effects of government regulation, consolidations and monopoly, ownership and operation in these industries.

Economists in this field attempt to explain why the national output of goods and services is subject to fluctuations, and to recommend measures for assuring a higher and more stable level of output and employment. They investigate the influence of private investment (production of new plant and equipment), of government spending and taxing, of monopolies, and of wage policies, upon the level of employment. As a guide to future policy, they make estimates of the size of the national output which our country is capable of producing.

4. *International Trade*: The economist specializing in international trade studies the factors determining the movement of goods among nations; trade restrictions, including tariffs, quotas, and exchange controls; the operation of foreign exchange; international investment and the problems of international capital transfer.
5. *Agricultural Economics*: The agricultural economist studies the economic aspects of agriculture, and its relationship to other fields of economics, in particular transportation, money and banking, and international trade. He studies farm management, crop estimating, agricultural credit, marketing of farm production, and commodity exchanges, and their relation to crop production and prices. He also studies the relationship between the

agricultural production and income and the rest of the economy, its tax structure, labor supply, tariff policies and other aspects.

6. *Labor Economics*: The labor economist studies factors affecting the supply, demand, organization, and well-being of labor. He studies wages and hours; industrial versus craft unions; management policies; pensions, insurance, and other welfare matters; labor legislation; labor disputes; conciliation, arbitration; and the effect of labor policies on industry and the national economy.
7. *Socio-Economics*: The economist specializing in this branch studies broad developments as they affect the economic welfare of the country. This includes such subjects as population growth and movements; national income by social group; the occupational distribution of people; the conservation and use of such natural resources as minerals, water power and land; and regional planning.

Functional Activities

The economist may specialize in one or in a combination of any of the following functional activities:

1. Teaching—at the college or university level. He usually but not always engages in part-time research.
2. Research—he conducts research on a full-time basis in government, in business and industrial establishments, in banks, in labor unions and at private research foundations.
3. Management or Administration of industry or government.
4. Technical editing and writing of books, magazines, pamphlets, and newspaper articles.
5. Consulting and advisory work for governments, business and financial institutions, and investors.

Professional Affiliations and Civil Service Status

Membership in a national or local professional organization is no criterion of professional status since such membership is

open to anyone interested in the objectives or activities of the society. Most economists, however, are affiliated with one or more professional societies.

In the Federal Civil Service and in many state or local civil service jurisdictions, a professional job classification or a rating on a civil service register as economist generally indicates the professional status of the economist. Economists may also be classified by civil service as social science analyst, or labor market analyst, labor relations specialist, tax expert.

Educational Qualifications

The professional economist usually possesses an M.A. or Ph.D. in economics. Such a degree is generally required for advancement in colleges and universities. For the higher levels in the government service and in industry, where the Ph.D. is not shown, the equivalent in professional experience and graduate work is usually required. Junior positions in the Federal service are, however, open to those with a bachelor's degree and a major in Economics.

Related Occupations

(a) High school teachers of economics who

may possess a bachelor's degree in economics are classified as *teachers, high school* rather than as professional economists.

- (b) Journalists and radio news commentators usually are interested in economic affairs and express opinions upon economic issues, but they ordinarily are not classified as economists.
- (c) Bankers, bank cashiers, and related banking, insurance and finance occupations are classified under managerial occupations.
- (d) Home economists are classified as such.
- (e) Those engaged in rural rehabilitation, and farm planning and demonstration are usually not classified as economists.

Sources of Employment

Economists are employed for the most part as college and university teachers, and in research and administrative capacities in government and business (banks, investment houses, railroads, public utilities, manufacturing firms). They find employment also with labor unions and private research institutes. Some are self-employed as consultants.

BOOK REVIEWS

Economic Theory; General Economics

HARROD, <i>Towards a Dynamic Economics</i> , by A. H. Hansen	497
<i>Income, Employment and Public Policy: Essays in Honor of Alvin H. Hansen</i> , by J. M. Clark	499
WRIGHT, <i>Democracy and Progress</i> , by A. B. Wolfe	508
FLORIN, <i>Dynamique Économique</i> , by K. J. Arrow	517
KERSCHAGL, <i>Volkswirtschaftslehre—ein Abriss der wichtigsten Lehrmeinungen</i> , by J. Grunwald	520
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SCIENCE AND IDEOLOGY*

By JOSEPH A. SCHUMPETER

I

A hundred years ago economists were much more pleased with their performance than they are today. But I submit that, if complacency can ever be justified, there is much more reason for being complacent today than there was then or even a quarter of a century ago. As regards command of facts, both statistical and historical, this is so obviously true that I need not insist. And if it be true of our command of facts, it must be true also for all the applied fields that for their advance mainly depend upon fact finding. I must insist, however, on the proposition that our powers of analysis have grown in step with our stock of facts. A new organon of statistical methods has emerged, to some extent by our own efforts, that is bound to mean as much to us as it does to all the sciences, such as biology or experimental psychology, the phenomena of which are given in terms of frequency distributions. In response to this development and in alliance with it, as well as independently, our own box of analytic tools has been greatly enriched: economic theory, in the instrumental sense of the term—in which it means neither the teaching of ultimate ends of policy nor explanatory hypotheses but simply the sum total of our methods of handling facts—has grown quite as much as Marshall and Pareto had foreseen that it would.

If this is not more generally recognized and if it is etiquette with economists—let alone the public—to pass derogatory judgment on the state of our science, this is owing to a number of causes that, though known all too well, should be repeated: a building plot on which old structures are being torn down and new ones erected is not an esthetic thing to behold; moreover, to a most discouraging extent the new structures are being currently discredited by premature attempts at utilitarian application; finally, the building area widens so

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that it becomes impossible for the individual worker to understand everything that is going on beyond his own small sector. It would indeed be difficult to present in systematic form, as the Smiths, Mills, and Marshalls have been able to do with more or less success, a comprehensive treatise that might display some measure of unity and command all but universal approval. Thus, though the workers in each sector are not at all displeased with how they are getting on themselves, they are quite likely to disapprove of the manner in which those in all the others go about their tasks, or even to deny that these other tasks are worth bothering about at all. This is but natural. Many types of mind are needed to build up the structure of human knowledge, types which never quite understand one another. Science is technique and the more it develops, the more completely does it pass out of the range of comprehension not only of the public but, minus his own chosen specialty, of the research worker himself. More or less, this is so everywhere although greater uniformity of training and greater discipline of endeavor may in physics reduce the tumult to something like order. As everyone knows, however, there is with us another source of confusion and another barrier to advance: most of us, not content with their scientific task, yield to the call of public duty and to their desire to serve their country and their age, and in doing so bring into their work their individual schemes of values and all their policies and politics—the whole of their moral personalities up to their spiritual ambitions.

I am not going to reopen the old discussion on value judgments or about the advocacy of group interests. On the contrary, it is essential for my purpose to emphasize that *in itself* scientific performance does not require us to divest ourselves of our value judgments or to renounce the calling of an advocate of some particular interest. To investigate facts or to develop tools for doing so is one thing; to evaluate them from some moral or cultural standpoint is, *in logic*, another thing, and the two *need* not conflict. Similarly, the advocate of some interest may yet do honest analytic work, and the motive of proving a point for the interest to which he owes allegiance does not in itself prove anything for or against this analytic work: more bluntly, advocacy does not imply lying. It spells indeed misconduct to bend either facts or inferences from facts in order to make them serve either an ideal or an interest. But such misconduct is not necessarily inherent in a worker's arguing from "axiological premises" or in advocacy *per se*.¹ Examples abound in which economists have estab-

¹ The above passage should be clear. But it may be as well to make its meaning more explicit. The misconduct in question consists, as stated, in "bending facts or logic in order to gain a point for either an ideal or an interest" *irrespective of whether a writer*

lished propositions for the implications of which they did not have any sympathy. To mention a single instance: to establish the logical consistency of the conditions (equations) that are descriptive of a socialist economy will seem to most people equivalent to gaining a point for socialism; but it was established by Enrico Barone, a man who, whatever else he may have been, was certainly no sympathizer with socialist ideals or groups.

But there exist in our minds preconceptions about the economic process that are much more dangerous to the cumulative growth of our knowledge and the scientific character of our analytic endeavors because they seem beyond our control in a sense in which value judgments and special pleadings are not. Though mostly allied with these, they deserve to be separated from them and to be discussed independently. We shall call them Ideologies.

II

The word *idéologie* was current in France toward the end of the 18th and in the first decade of the 19th century and meant much the same thing as did the Scottish moral philosophy of the same and an earlier time or as our own social science in that widest acceptance of the term in which it includes psychology. Napoleon imparted a derogatory meaning to it by his sneers at the *idéologues*—doctrinaire dreamers without any sense for the realities of politics. Later on, it was used as it is often used today in order to denote systems of ideas, that is, in a way in which our distinction between ideologies and value judgments is lost. We have nothing to do with these or any other meanings except one that may be most readily introduced by reference to the "historical materialism" of Marx and Engels. According to this doctrine, history is determined by the autonomous evolution of the structure of production: the social and political organization, religions, morals, arts and sciences are mere "ideological superstructures," generated by the economic process.

We neither need nor can go into the merits and demerits of this conception as such² of which only one feature is relevant to our purpose. This feature is the one that has, through various transformations, developed into the sociology of science of the type associated with the

states his preference for the cause for which he argues or not. Independently of this, it may be sound practice to require that everybody should explicitly state his "axiological premises" or the interest for which he means to argue whenever they are not obvious. But this is an additional requirement that should not be confused with ours.

²In particular, its acceptance is no prerequisite of the validity of the argument that is to follow and could have been set forth also in other ways. There are, however, some advantages in starting from a doctrine that is familiar to all and that needs only to be mentioned in order to call up, in the mind of the audience, certain essential notions in a minimum of time.

names of Max Scheler and Karl Mannheim. Roughly up to the middle of the 19th century the evolution of "science" had been looked upon as a purely intellectual process—as a sequence of explorations of the empirically given universe or, as we may also put it, as a process of filiation of discoveries or analytic ideas that went on, though no doubt influencing social history and being influenced by it in many ways, according to a law of its own. Marx was the first to turn this relation of interdependence between "science" and other departments of social history into a relation of dependence of the former on the objective data of the social structure and in particular on the social location of scientific workers that determines their outlook upon reality and hence what they see of it and how they see it. This kind of relativism—which must of course not be confused with any other kind of relativism³—if rigorously carried to its logical consequences spells a new philosophy of science and a new definition of scientific truth. Even for mathematics and logic and still more for physics, the scientific worker's choice of problems and of approaches to them, hence the pattern of an epoch's scientific thought, becomes socially conditioned—which is precisely what we mean when speaking of scientific ideology rather than of the ever more perfect perception of objective scientific truths.

Few will deny, however, that in the cases of logic, mathematics, and physics the influence of ideological bias does not extend beyond that choice of problems and approaches, that is to say, that the sociological interpretation does not, at least for the last two or three centuries, challenge the "objective truth" of the findings. This "objective truth" may be, and currently is being, challenged on other grounds but not on the ground that a given proposition is true only with reference to the social location of the men who formulated it. To some extent at least, this favorable situation may be accounted for by the fact that logic, mathematics, physics and so on deal with experience that is largely invariant to the observer's social location and practically invariant to historical change: for capitalist and proletarian, a falling stone looks alike. The social sciences do not share this advantage. It is possible, or so it seems, to challenge their findings not only on all the grounds on which the propositions of all sciences may be challenged but also on the additional one that they cannot convey more than a writer's class affiliations and that, without reference to such class affiliations, there is no room for the categories of true or false, hence for the conception of "scientific advance" at all. Henceforth we adopt

³I should consider it an insult to the intelligence of my readers to emphasize that in particular this kind of relativism has nothing to do with Einsteinian relativity were it not a fact that there actually are instances of this confusion in the philosophical literature of our time. This has been pointed out to me by Professor Philipp Frank.

the term Ideology or Ideological Bias for this—real or supposed—state of things alone, and our problem is to ascertain the extent to which ideological bias is or has been a factor in the development of what—conceivably—it might be a misnomer to call scientific economics.

In recognizing the ideological element it is possible to go to very different lengths. There are a few writers who have in fact denied that there is such a thing in economics as accumulation of a stock of “correctly” observed facts and “true” propositions. But equally small is the minority who would deny the influence of ideological bias entirely. The majority of economists stand between these extremes: they are ready enough to admit its presence though, like Marx, they find it only in others and never in themselves; but they do not admit that it is an inescapable curse and that it vitiates economics to its core. It is precisely this intermediate position that raises our problem. *For ideologies are not simply lies*; they are truthful statements about what a man thinks he sees. Just as the medieval knight saw himself as he wished to see himself and just as the modern bureaucrat does the same and just as both failed and fail to see whatever may be adduced against their seeing themselves as the defenders of the weak and innocent and the sponsors of the Common Good, so every other social group develops a protective ideology which is nothing if not sincere. *Ex hypothesi* we are not aware of our rationalizations—how then is it possible to recognize and to guard against them?

But let me repeat before I go on: I am speaking of science which is technique that turns out the results which, together with value judgments or preferences, produce recommendations, either individual ones or systems of them—such as the systems of mercantilism, liberalism and so on. I am not speaking of these value judgments and these recommendations themselves. I fully agree with those who maintain that judgments about ultimate values—about the Common Good, for instance—are beyond the scientist’s range except as objects of historical study, that they are ideologies by nature and that the concept of scientific progress can be applied to them only so far as the means may be perfected that are to implement them. I share the conviction that there is no sense in saying that the world of ideas of bourgeois liberalism is “superior” in any relevant sense to the world of ideas of the middle ages, or the world of ideas of socialism to that of bourgeois liberalism. Actually, I further believe that there is no reason other than personal preference for saying that more wisdom or knowledge goes into our policies than went into those of the Tudors or Stuarts or, for that matter, into Charlemagne’s.

III

So soon as we have realized the possibility of ideological bias, it is not difficult to locate it. All we have to do for this purpose is to scrutinize scientific procedure. It starts from the perception of a set of related phenomena which we wish to analyze and ends up—for the time being—with a scientific model in which these phenomena are conceptualized and the relations between them explicitly formulated, either as assumptions or as propositions (theorems). This primitive way of putting it may not satisfy the logician but it is all we need for our hunt for ideological bias. Two things should be observed.

First, that perception of a set of related phenomena is a pre-scientific act. It must be performed in order to give to our minds something to do scientific work on—to indicate an object of research—but it is not scientific in itself. But though prescientific, it is not preanalytic. It does not simply consist in perceiving facts by one or more of our senses. These facts must be recognized as having some meaning or relevance that justifies our interest in them and they must be recognized as related—so that we might separate them from others—which involves some analytic work by our fancy or common sense. This mixture of perceptions and prescientific analysis we shall call the research worker's Vision or Intuition. In practice, of course, we hardly ever start from scratch so that the prescientific act of vision is not entirely our own. We start from the work of our predecessors or contemporaries or else from the ideas that float around us in the public mind. In this case our vision will also contain at least some of the results of previous scientific analysis. However, this compound is still given to us and exists before we start scientific work ourselves.

Second, if I have identified with "model building" the scientific analysis that operates upon the material proffered by the vision, I must add at once that I intend to give the term "model" a very wide meaning. The explicit economic model of our own day and its analoga in other sciences are of course the product of late stages of scientific endeavor. Essentially, however, they do not do anything that is not present in the earliest forms of analytic endeavor which may therefore also be said to have issued, with every individual worker, in primitive, fragmentary, and inefficient models. This work consists in picking out certain facts rather than others, in pinning them down by labeling them, in accumulating further facts in order not only to supplement but in part also to replace those originally fastened upon, in formulating and improving the relations perceived—briefly, in "factual" and "theoretical" research that go on in an endless chain of give and take, the facts suggesting new analytic instruments (theories) and these in turn carrying us toward the recognition of new facts. This is as

true when the object of our interest is an historical report as it is when the object of our interest is to "rationalize" the Schrödinger equation though in any particular instance the task of fact finding or the task of analyzing may so dominate the other as to almost remove it from sight. Schoolmasters may try to make this clearer to their pupils by talking about induction and deduction and even set the one against the other, creating spurious problems thereby. The essential thing, however we may choose to interpret it, is the "endless give and take" between the clear concept and the cogent conclusion on the one hand, and the new fact and the handling of its variability on the other.

Now, so soon as we have performed the miracle of knowing what we cannot know, namely the existence of the ideological bias in ourselves and others, we can trace it to a simple source. This source is in the initial vision of the phenomena we propose to subject to scientific treatment. For this treatment itself is under objective control in the sense that it is always possible to establish whether a given statement, in reference to a given state of knowledge, is provable, refutable, or neither. Of course this does not exclude honest error or dishonest faking. It does not exclude delusions of a wide variety of types. But it does permit the exclusion of that particular kind of delusion which we call ideology because the test involved is indifferent to any ideology. The original vision, on the other hand, is under no such control. There, the elements that will meet the tests of analysis are, by definition, undistinguishable from those that will not or—as we may also put it since we admit that ideologies *may* contain provable truth up to 100 per cent—the original vision *is* ideology by nature and may contain any amount of delusions traceable to a man's social location, to the manner in which he wants to see himself or his class or group and the opponents of his own class or group. This should be extended even to peculiarities of his outlook that are related to his personal tastes and conditions and have no group connotation—there is even an ideology of the mathematical mind as well as an ideology of the mind that is allergic to mathematics.

It may be useful to reformulate our problem before we discuss examples. Since the source of ideology is our pre- and extrascientific vision of the economic process and of what is—causally or teleologically—important in it and since normally this vision is then subjected to scientific treatment, it is being either verified or destroyed by analysis and in either case should vanish *qua* ideology. How far, then, does it fail to disappear as it should? How far does it hold its own in the face of accumulating adverse evidence? And how far does it vitiate our analytic procedure itself so that, in the result, we are still left with knowledge that is impaired by it?

From the outset it is clear that there is a vast expanse of ground on which there should be as little danger of ideological vitiation as there is in physics. A time series of gross investment in manufacturing industry may be good or bad, but whether it is the one or the other is, normally, open to anyone to find out. The Walrasian system *as it stands* may or may not admit of a unique set of solutions but whether it does or not is a matter of exact proof that every qualified person can repeat. Questions like these may not be the most fascinating or practically most urgent ones but they constitute the bulk of what is specifically scientific in our work. And they are in logic although not always in fact neutral to ideology. Moreover, their sphere widens as our understanding of analytic work improves. Time was when economists thought that they were gaining or losing a point for labor if they fought for the labor-quantity and against the marginal-utility theory of value. It can be shown that, so far as ideologically relevant issues are concerned, this makes as little difference as did the replacement of the latter by the indifference-curve approach or the replacement of the indifference curves by a simple consistency postulate (Samuelson). I dare say that there are still some who find something incongruous to their vision in marginal-productivity analysis. Yet it can be shown that the latter's purely formal apparatus is compatible with any vision of economic reality that anyone ever had.⁴

IV

Let us now look for ideological elements in three of the most influential structures of economic thought, the works of Adam Smith, of Marx, and of Keynes.

In Adam Smith's case the interesting thing is not indeed the absence but the harmlessness of ideological bias. I am not referring to his time- and country-bound practical wisdom about *laissez-faire*, free trade, colonies and the like for—it cannot be repeated too often—a man's political preferences and recommendations as such are entirely beyond the range of my remarks or rather they enter this range only so far as the factual and theoretical analysis does that is presented in support of them. I am exclusively referring to this analytical work

⁴ The contrary opinion that is sometimes met with is to be attributed to the simplified versions of the marginal-productivity theory that survive in textbooks and do not take into account all the restrictions to which production functions are subject in real life, especially if they are production functions of going concerns for which a number of technological data are, for the time being, unalterably fixed—just as in elementary mechanics no account is taken of the complications that arise so soon as we drop the simplifying assumption that the masses of bodies are concentrated in a single point. But a marginal-productivity theory that does take account of restrictions which, even in pure competition, prevent factors from being paid according to their marginal productivities is still marginal-productivity theory.

itself—only to his indicatives, not to his imperatives. This being understood, the first question that arises is what kind of ideology we are to attribute to him. Proceeding on the Marxist principle we shall look to his social location, that is, to his personal and ancestral class affiliations and in addition to the class connotation of the influences that may have formed or may have helped to form what we have called his vision. He was a *komo academicus* who became a civil servant. His people were more or less of a similar type: his family, not penniless but neither wealthy, kept up some standard of education and fell in with a well-known group in the Scotland of his day. Above all it did *not* belong to the business class. His general outlook on things social and economic reproduced these data to perfection. He beheld the economic process of his time with a cold critical eye and instinctively looked for mechanical rather than personal factors of explanation—such as division of labor. His attitude to the land-owning and to the capitalist classes was the attitude of the observer from outside and he made it pretty clear that he considered the landlord (the “slothful” landlord who reaps where he has not sown) as an unnecessary, and the capitalist (who hires “industrious people” and provides them with subsistence, raw materials, and tools) as a necessary-evil. The latter necessity was rooted in the virtue of parsimony, eulogy of which evidently came from the bottom of his Scottish soul. Apart from this, his sympathies went wholly to the laborer who “clothes everybody and himself goes in rags.” Add to this the disgust he felt—like all the people in his group—at the inefficiency of the English bureaucracy and at the corruption of the politicians and you have practically all of his ideological vision. While I cannot stay to show how much this explains of the picture he drew, I must emphasize that the other component of this vision, the natural-law philosophy that he imbibed in his formative years, the product of similarly conditioned men, influenced the ideological background from which he wrote in a similar manner—natural freedom of action, the workman’s natural right to the whole product of industry, individualistic rationalism and so on, all this was taught to him ere his critical faculties were developed but there was hardly need to teach him these things for they came “naturally” to him in the air he breathed. But—and this is the really interesting point—all this ideology, however strongly held, really did not much harm to his scientific achievement. Unless we go to him for economic sociology,⁵ we receive from him sound factual and analytic teaching that no doubt carries date but is not open to objection on the score of ideological bias. There is some semiphilosophical foliage of

⁵ Even there, so I have been reminded by Professor E. Hamilton, there is perhaps more to praise than there is to blame.

an ideological nature but it can be removed without injury to his scientific argument. The analysis that supports his qualified free-trade conclusions is not—as it was with some contemporaneous philosophers, such as Morellet—based upon the proposition that by nature a man is free to buy or to sell where he pleases. The statement that the (whole) produce is the natural compensation of labor occurs, but no analytic use is made of it—everywhere the ideology spends itself in phraseology and for the rest recedes before scientific research. In part at least, this was the merit of the man: he was nothing if not responsible; and his sober and perhaps somewhat dry common sense gave him respect for facts and logic. In part it was good fortune: it matters little if his analysis has to be given up as the *psychology* it was meant to be if at the same time it must be retained as a *logical* schema of economic behavior—on closer acquaintance, the *homo economicus* (so far as Adam Smith, the author of the *Moral Sentiments*, can in fact be credited or debited with this conception at all) turns out to be a very harmless man of straw.

Marx was the economist who discovered ideology for us and who understood its nature. Fifty years before Freud, this was a performance of the first order. But, strange to relate, he was entirely blind to its dangers so far as he himself was concerned. Only other people, the bourgeois economists and the utopian socialists, were victims of ideology. At the same time, the ideological character of his premises and the ideological bias of his argument are everywhere obvious. Even some of his followers (Mehring, for instance) recognized this. And it is not difficult to describe his ideology. He was a bourgeois radical who had broken away from bourgeois radicalism. He was formed by German philosophy and did not feel himself to be a professional economist until the end of the 1840's. But by that time, that is to say, *before* his serious analytic work had begun, his vision of the capitalist process had become set and his scientific work was to implement, not to correct it. It was not original with him. It pervaded the radical circles of Paris and may be traced back to a number of 18th century writers, such as Linguet.⁶ History conceived as the struggle between classes that are defined as *haves* and *havenots*, with exploitation of the one by the other, ever increasing wealth among ever fewer *haves* and ever increasing misery and degradation among the *havenots*, moving with inexorable necessity toward spectacular explosion, this was the vision then conceived with passionate energy and to be worked up, like a raw material is being worked up, by means of the scientific tools of his time. This vision implies a number of statements that will

⁶ See especially S. N. H. Linguet, *La théorie des Lois Civiles* (1767), and Marx's comments on him in Volume I, pp. 77 *et seq.* of the *Theorien über den Mehrwert*.

not stand the test of analytic controls. And, in fact, as his analytic work matured, Marx not only elaborated many pieces of scientific analysis that were neutral to that vision but also some that did not agree with it well—for instance, he got over the kind of underconsumption and the kind of overproduction theories of crises which he seems to have accepted at first and traces of which—to puzzle interpreters—remained in his writings throughout. Other results of his analysis he introduced by means of the device of retaining the original—ideological—statement as an “absolute” (*i.e.*, abstract) law while admitting the existence of counteracting forces which accounted for deviating phenomena in real life. Some parts of the vision, finally, took refuge in vituperative phraseology that does not affect the scientific elements in an argument. For instance, whether right or wrong, his exploitation theory of “surplus” value was a genuine piece of theoretical analysis. But all the glowing phrases about exploitation could have been attached just as well to other theories, Böhm-Bawerk’s among them: imagine Böhm-Bawerk in Marx’s skin, what could have been easier for him than to pour out the vials of his wrath on the infernal practice of robbing labor by means of deducting from its product a time discount?

But some elements of his original vision—in particular the increasing misery of the masses which was what was to goad them into the final revolution—that were untenable were at the same time indispensable for him. They were too closely linked to the innermost meaning of his message, too deeply rooted in the very meaning of his life, to be ever discarded. Moreover, they were what appealed to followers and what called forth their fervent allegiance. It was they which explain the organizing effect—the party-creating effect—of what without them would have been stale and lifeless. And so we behold in this case the victory of ideology over analysis: all the consequences of a vision that turns into a social creed and thereby renders analysis sterile.

Keynes’ vision—the source of all that has been and is more or less definitely identified as Keynesianism—appeared first in a few thoughtful paragraphs in the introduction to the *Consequences of the Peace* (1920). These paragraphs created *modern* stagnationism—stagnationist moods had been voiced, at intervals, by many economists before, from *Britannia Languens* on (1680)—and indicate its essential features, the features of mature and arteriosclerotic capitalist society that tries to save more than its declining opportunities for investment can absorb. This vision never vanished again—we get another glimpse of it in the tract on *Monetary Reform* and elsewhere but, other problems absorbing Keynes’ attention during the 1920’s, it was not implemented analytically until much later. D. H. Robertson in his *Banking Policy*

and the Price Level presented some work that amounted to partial implementation of the idea of abortive saving. But with Keynes this idea remained a side issue even in the *Treatise on Money*. Perhaps it was the shock imparted by the world crisis which definitely broke the bonds that prevented him from fully verbalizing himself. Certainly it was the shock imparted by the world crisis which created the public for a message of this kind.

Again it was the ideology—the vision of decaying capitalism that located (*saw*) the cause of the decay in one out of a large number of features of latter-day society—which appealed and won the day, and not the analytic implementation by the book of 1936 which, by itself and without the protection it found in the wide appeal of the ideology, would have suffered much more from the criticisms that were directed against it almost at once. Still, the conceptual apparatus was the work not only of a brilliant but also of a mature mind—of a Marshallian who was one of the three men who had shared the sage's mantle between them. Throughout the 1920's Keynes was and felt himself to be a Marshallian and even though he later on renounced his allegiance dramatically, he never deviated from the Marshallian line more than was strictly necessary in order to make his point. He continued to be what he had become by 1914, a master of the theorist's craft, and he was thus able to provide his vision with an armour that prevented many of his followers from seeing the ideological element at all. Of course this now expedites the absorption of Keynes' contribution into the current stream of analytic work. There are no really new principles to absorb. The ideology of underemployment equilibrium and of non-spending—which is a better term to use than saving—is readily seen to be embodied in a few restrictive assumptions that emphasize certain (real or supposed) facts. With these everyone can deal as he thinks fit and for the rest he can continue his way. This reduces Keynesian controversies to the level of technical science. Lacking institutional support, the "creed" has petered out with the situation that had made it convincing. Even the most stalwart McCullochs of our day are bound to drift into one of those positions of which it is hard to say whether they involve renunciation, reinterpretation, or misunderstanding of the original message.

V

Our examples might suggest that analytically uncontrolled ideas play their role exclusively in the realm of those broad conceptions of the economic process as a whole that constitute the background from which analytic effort sets out and of which we never succeed in fully mastering more than segments. This is of course true to some extent—

the bulk of our research work deals with particulars that give less scope to mere vision and are more strictly controlled by objective tests—but not wholly so. Take, for instance, the theory of saving which does appear in a wider context in the Keynesian system but might also, factually and theoretically, be treated by itself. From the time of Turgot and Smith—in fact from still earlier times—to the time of Keynes all the major propositions about its nature and effects have, by slow accretion, been assembled so that, in the light of the richer supply of facts we command today, there should be little room left for difference of opinion. It should be easy to draw up a summarizing (though perhaps not very exciting) analysis that the large majority of professional economists might accept as a matter of course. But there is, and always has been, eulogistic or vituperative preaching on the subject that, assisted by terminological tricks such as the confusion between saving and nonspending, has succeeded in producing a sham antagonism between the writers on the subject. Much emphasized differences in doctrine for which there is no factual or analytical basis always indicate, though in themselves they do not prove, the presence of ideological bias on one side or on both—which in this case hails from two different attitudes to the bourgeois scheme of life.

Another instance of sectional ideology of this kind is afforded by the attitude of many, if not most economists, toward anything in any way connected with monopoly (oligopoly) and cooperative price setting (collusion). This attitude has not changed since Aristotle and Molina although it has acquired a partially new meaning under the conditions of modern industry. Now as then, a majority of economists would subscribe to Molina's dictum: *monopolium est injustum et rei publicae injuriosum*. But it is not this value judgment which is relevant to my argument—one may dislike modern largest-scale business exactly as one may dislike many other features of modern civilization—but the analysis that leads up to it and the ideological influence that this analysis displays. Anyone who has read Marshall's *Principles*, still more anyone who has also read his *Industry and Trade*, should know that among the innumerable patterns that are covered by those terms there are many of which benefit and not injury to economic efficiency and the consumers' interest ought to be predicated. More modern analysis permits to show still more clearly that no sweeping or unqualified statement can be true for all of them; and that the mere facts of size, single-sellership, discrimination, and cooperative price setting are in themselves inadequate for asserting that the resulting performance is, in any relevant sense of the word, inferior to the one which could be expected under pure competition in conditions attainable under pure competition—in other words, that economic

analysis offers no material in support of *indiscriminate* "trust busting" and that such material must be looked for in the particular circumstances of each individual case. Nevertheless, many economists support such *indiscriminate* "trust busting" and the interesting point is that enthusiastic sponsors of the private-enterprise system are particularly prominent among them. Theirs is the ideology of a capitalist economy that would fill its social functions admirably by virtue of the magic wand of pure competition were it not for the monster of monopoly or oligopoly that casts a shadow on an otherwise bright scene. No argument avails about the performance of largest-scale business, about the inevitability of its emergence, about the social costs involved in destroying existing structures, about the futility of the hallowed ideal of pure competition—or in fact ever elicits any response other than most obviously sincere indignation.

Even as thus extended, our examples, while illustrating well enough what ideology is, are quite inadequate to give us an idea of the range of its influence. The influence shows nowhere more strongly than in economic history which displays the traces of ideological premises so clearly, precisely because they are rarely formulated in so many words, hence rarely challenged—the subject of the role that is to be attributed in economic development to the initiative of governments, policies, and politics affords an excellent instance: groupwise, economic historians have systematically over- or understated the importance of this initiative in a manner that points unequivocally to prescientific convictions. Even statistical inference loses the objectivity that should in good logic characterize it whenever ideologically relevant issues are at stake.⁷ And some of the sociological, psychological, anthropological, biological waters that wash our shores are so vitiated by ideological bias that, beholding the state of things in parts of those fields, the economist might sometimes derive solace from comparison. Had we time, we could everywhere observe the same phenomenon: that ideologies crystallize, that they become creeds which for the time being are impervious to argument; that they find defenders whose very souls go into the fight for them.

There is little comfort in postulating, as has been done sometimes, the existence of detached minds that are immune to ideological bias and *ex hypothesi* able to overcome it. Such minds may actually exist

⁷ I am not aware of any instances in which the rules of inference themselves have been ideologically distorted. All the more frequent are instances in which the rigor of tests is relaxed or tightened according to the ideological appeal of the proposition under discussion. Since acceptance or rejection of a given statistical result always involves some risk of being wrong, mere variation in willingness to incur such a risk will suffice, even apart from other reasons, to produce that well-known situation in which two statistical economists draw opposite inferences from the same figures.

and it is in fact easy to see that certain social groups are further removed than are others from those ranges of social life in which ideologies acquire additional vigor in economic or political conflict. But though they may be relatively free from the ideologies of the practitioners, they develop not less distorting ideologies of their own. There is more comfort in the observation that no economic ideology lasts forever and that, with a likelihood that approximates certainty, we eventually grow out of each. This follows not only from the fact that social patterns change and that hence every economic ideology is bound to wither but also from the relation that ideology bears to that prescientific cognitive act which we have called vision. Since this act induces fact finding and analysis and since these tend to destroy whatever will not stand their tests, no economic ideology could survive indefinitely even in a stationary social world. As time wears on and these tests are being perfected, they do their work more quickly and more effectively. But this still leaves us with the result that some ideology will always be with us and so, I feel convinced, it will.

But this is no misfortune. It is pertinent to remember another aspect of the relation between ideology and vision. That prescientific cognitive act which is the source of our ideologies is also the prerequisite of our scientific work. No new departure in any science is possible without it. Through it we acquire new material for our scientific endeavors and something to formulate, to defend, to attack. Our stock of facts and tools grows and rejuvenates itself in the process. And so—though we proceed slowly because of our ideologies, we might not proceed at all without them.

BENTHAM AND J. S. MILL: THE UTILITARIAN BACKGROUND*

By JACOB VINER

The one-hundredth anniversary of the publication of J. S. Mill's *Principles of Political Economy* falls in the year 1948, and the American Economic Association in the programming of its meetings takes advantage of anniversaries of births, deaths, and dates of publication to remind its members that our discipline has a past. This is a proper occasion, therefore, for a paper on J. S. Mill. The inclusion of Bentham in the scope of my paper is of my own contriving, but perhaps I can technically legitimize it by appeal to the fact that British learned circles have been celebrating during 1948 the two-hundredth anniversary of Bentham's birth. There is no intellectual difficulty, however, in associating Bentham with Mill. The intellectual history of Mill is in large part a history, first, of faithful discipleship, then of rebellion from, and finally of substantial return, to the Benthamite set of doctrines.

The general lines of Bentham's thought were wholly of the eighteenth century, as I could demonstrate if there were time. Of English intellectuals who have had great influence, Bentham was perhaps the least original in his stock of general ideas, but clearly the most original in finding means and devices for putting his philosophy to practical use. To the nineteenth century Bentham was important as a carrier of eighteenth century thought and, still more, as a translator of this thought into a program of social reform. It was the seventeenth century which was the Age of Genius. The philosophers of the eighteenth century were, nonetheless, fertile in ideas. They were, however, almost completely devoid of zeal for the application of these ideas to change of institutions, or even of zeal in generating ideas which would call for change in existing institutions.

We economists like to think of Adam Smith as an exception in this regard, but he was so only to a moderate extent. The one social issue on which Adam Smith was a zealot was the issue of freedom of trade *versus* mercantilism. But Smith had little confidence in the ability of ideas to move worlds. It is often overlooked that it was with reference to internal and not to international free trade that Adam

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Smith made his famous statement that "To expect, indeed, that the freedom of trade should ever be entirely restored in Great Britain, is as absurd as to expect that an Oceana or Utopia should ever be established in it," and this although when he wrote, by obsolescence rather than by deliberate repeal, the restrictions on internal freedom of trade had already become largely inoperative. There is no evidence that Smith was more optimistic about the prospects for international than for domestic free trade, or that, beyond writing his book and preparing a few memoranda for the government when called upon, he ever felt moved to do anything, and especially to resort to anything rude or, in the eighteenth-century meaning of the term, to "enthusiasm," to obtain acceptance and execution of his reforming ideas.

The eighteenth century, in Britain if not in France, and before the American and the French Revolutions if not after, was the age of social complacency, political, economic, moral, of satisfaction with the *status quo* at least to the extent of belief that the costs of substantial change would exceed the benefits of removal or moderation of whatever evils were recognized to prevail. British eighteenth-century government was oligarchic, corrupt, inefficient, though it was generally not tyrannical in intent and usually too lax, too inert, too decentralized, and too sceptical to be seriously tyrannical in effect. Until the end of the century there was no major figure who even mildly suggested the need for major political reform. Whether the economic condition of the masses of the people was improving or deteriorating, and whatever its trend, whether it was desperately bad or moderately good as compared to later standards, I frankly have no idea. We may rest assured, however, that it was not idyllic, if only because it never is.

Nevertheless, there was not until the very last moments of the century either a single major political debate which turned on the economic conditions of the poor or a single major writer who had important suggestions as to how to improve them, with the sole exception of Adam Smith's plea for freedom of trade. It was even a common doctrine of the century that the poor should never be relieved of their poverty above the level of a bare subsistence plus perhaps a few crumbs of cake, and it was at least the quasi-official doctrine of the Church of England that the poverty of the poor—and the prosperity of the bishops—were in accordance with the Divine Will.

Bentham and the Benthamites, on the other hand, were never complacent about the condition of the people of England. They were "Radical Reformers," and they worked hard at their reforms: by working out detailed blueprints for them; by propaganda, agitation, intrigue, conspiracy; and, if truth be told, by encouragement to revolutionary movements up to—but not beyond—the point where resort to physical

force would be the next step. Bentham, moreover, was a successful social reformer, more successful perhaps than anyone else in history except Karl Marx—I have in mind here only the realization and not the merits of programs of change—if he is given credit for those changes which came after his death as the result largely of the efforts of his disciples.

The list of reforms in England which derive largely from Bentham is a truly impressive one, and I present it here only in part: fundamental law reform in many of its branches; prison reform; adult popular suffrage, including woman suffrage; free trade; reform in colonial government; legalization of trade unions; general education at public expense; free speech and free press; the secret ballot; a civil service appointed and promoted on merit; repeal of the usury laws; general registration of titles to property; reform of local government; a safety code for merchant shipping; sanitary reform and preventive medicine at public expense; systematic collection of statistics; free justice for the poor. Bentham was the first person to propose birth-control as a measure of economic reform, and this *before* Malthus had published his first *Essay on the Principle of Population*.¹ The Ministry of Health which he proposed would be made responsible not only for general sanitation and routine public health work, but also for smoke prevention, local health-museums, and the policing of the medical profession to prevent their formation of monopolies. ✓

Related to the conditions of the time when these reforms were proposed, Bentham's program was comprehensive, radical, and progressive without being visionary. The modern "democratic socialist" would find it wanting, since Bentham did not approve of tampering with the system of private property except through inheritance taxation and insisted on "compensation" where reform measures would involve violation of "reasonable expectations." He apparently never formulated any concrete proposals for social security on an insurance basis, but he approved in principle of government-administered and government-subsidized insurance against every conceivable type of social hazard for which individual prudence could not make adequate provision. It was too early for proposals to stabilize employment through monetary or fiscal measures, although Bentham did explore the possibility of increasing real investment and production through the "forced frugality" induced by the issue of paper money.² Pronounced in-

¹ See J. Bentham, "Situation and Relief of the Poor," *Annals of Agriculture*, Vol. XXIX (1797), pp. 422-23 (p. 31, in the separate pamphlet version). See also Norman E. Himes, "Jeremy Bentham and the Genesis of English Neo-Malthusianism," *Economic History* (Suppl. of *The Economic Journal*), Vol. III (1936), pp. 267-76.

² Bentham's treatment of this still remains in large part in manuscript. Extracts from these unpublished manuscripts and comments by Ricardo on them have recently been

dividualist though he was, his specific program of reforms in both the content and the processes of legislation, in governmental organization, and in public administration, made him a major source of inspiration for the Fabian socialists as well as for the laissez-faire liberals.

To belief in political democracy Bentham came only slowly, and only as their failure to adopt his proposals eroded his faith in the good intentions of the British aristocratic politicians. The Benthamite case for political democracy was first elaborately expounded by James Mill in his famous essay on Government first published in 1820. It turned out to be an embarrassment for Bentham and his other disciples because by the scholastic formalism of its argument and the extreme lengths to which it carried Bentham's doctrine it was seriously vulnerable to rebuttal and, even worse, to ridicule. Starting out from the proposition that the sole proper purpose of government is to promote the greatest happiness of mankind, James Mill proceeded by purely *a priori* analysis, without any reference to history or to contemporary fact, from the premise that legislators served *only* their "sinister interests"—a stock Benthamite term for the self-interest of rulers or a ruling class—to the conclusion that good government was therefore obtainable only by making it, through popular suffrage and frequent elections, the self-interest of the elected to serve the interests of the electors.

Bentham, writing in the 1780's, had conceded that if at any time legislators "have suffered the nation to be preyed upon by swarms of idle pensioners, or useless place-men, it has rather been from negligence and imbecility, than from any settled plan for oppressing and plundering of the people," but in 1814 he appended a note withdrawing the concession: "So thought Anno 1780 and 1790.—Not so Anno 1814.—J. Bentham."³ By that time he had adopted the doctrine of "Sinister Interests." But James Mill carried the doctrine further than was necessary to meet Bentham's requirements and probably further than Bentham's belief in it. As Tawney has remarked: "To [James Mill] the State is not a band of brothers, but a mutual detective society; the principal advantage of popular government is that there are more detectives, and therefore, presumably, fewer thieves."⁴ Bentham always, but James Mill rarely, if ever, conceded that men, even legislators, could not only be influenced by the praise and blame of other men,

published by Edmund Silberner, "Un Manuscrit Inédit de David Ricardo sur le Problème Monétaire," *Revue d'Histoire Économique et Sociale*, Vol. XXV (1940), 195-259, and were then also already in page proof in Piero Sraffa's long-forthcoming edition of Ricardo's works.

³ Bentham, "Principles of Morals and Legislation," *Works* (Edinburgh, 1838-1843), I. 5.

⁴ R. H. Tawney, preface to *Life and Struggles of William Lovett*, new ed. (New York, 1920), p. xxi.

but could even display some measure of pure benevolence. As Barker has commented: "... while all—or nearly all—of the theorems of Mill's article may be found in Bentham, they have undergone a change. The egoism is more egoistic; the negativism is more negative,"⁵ and it may be added the *a priori* analysis more "high *priori*." In the seventeenth century Harrington had denied that Hobbes could work the miracle of "making you a king by geometry." Macaulay was now to deny that the Benthamites could depose an aristocracy by geometry.

Macaulay, a young man anxiously seeking fame by his fluent and facile pen, found the opportunity in James Mill's essay on Government. Reviewing in 1829, in the magisterial *Edinburgh Review*, a reprint of this essay of James Mill, Macaulay raked it high and low, primarily on the basis of its use, without benefit of historical induction or of reference to contemporary facts, of the *a priori* or, in the language of the time and earlier, the geometrical method, but also on the more concrete ground that the proposition that legislators *always* and *invariably* act in terms of their selfish interests was preposterous whatever the method by which it was attempted to establish it.⁶

The Benthamites were shaken by the attack, and J. S. Mill most so, as we shall see later. But Macaulay himself, without withdrawing anything of what he had written, soon thereafter made his peace with James Mill and from then on was an exponent of political democracy on the basis of a line of argument which Paxton in his *Civil Polity* had already presented in 1703, and which should have been the original and was to become the standard line of the Benthamites, namely, that only by democratic voting could there be an adequate guarantee that legislators would *always* or predominantly serve the general interest, without denial that they might sometimes do so even in the absence of democracy.

I come now to deal more systematically with the most difficult and the most controverted aspect of Benthamism, namely, its psychological and ethical justifications for utilitarianism as legislative policy.

Bentham's main concern with ethics was with the ethics which should be followed by moral leaders, not with the ethics of the ordinary man, not with private morals, except as they were data to be operated on by the elite. "The science," he said, "whose foundations we have explored can appeal only to lofty minds with whom the public welfare has become a passion."⁷ And by them, Bentham held, its lessons should be pressed on legislators, whether *their* minds were lofty ones or not.

⁵ Sir Ernest Barker, in the preface of his edition of James Mill, *Essay on Government* (Cambridge, England, 1937).

⁶ See the preface, pp. ix-xi and pp. 160 ff. of *The Miscellaneous Writings and Speeches of Lord Macaulay*, Popular Edition (London, 1891).

⁷ *Theory of Legislation*, C. M. Atkinson ed. (London, 1914), II. 337.

As Bentham acknowledged,⁸ he sometimes overlooked this, and wrote as if what he had to say was directed at private morals, and critics have made much of this oversight without treating it merely as a lapse from his fundamental purposes. It was Benthamism interpreted as a system of private ethics, didactic as well as descriptive, that has aroused the most violent and the most emotional antagonism. Even as private ethics, however, Benthamism has seemed so vulnerable a target to *odium theologicum* and *odium ethicum* only because the private ethics of the critics permitted them to attack Bentham's words without taking pains to ascertain what the thoughts were which these words were intended to communicate.

Bentham starts from the standard eighteenth-century proposition, common to theologians and to sceptical philosophers alike, that man operates "under the governance of two sovereign masters, pain and pleasure." Happiness is a net sum or aggregate of individually experienced pleasures and pains.⁹ Man, he claims, acts only in response to his "interests," by which he usually, and fundamentally, means whatever men are interested in, but, unfortunately, frequently allows to mean what men regard as in their self-interest. Men normally are interested to some extent in the happiness of others than themselves, and in exceptional cases are capable of "universal benevolence," or a dominating concern with the happiness of mankind at large, but generally, if they are left to themselves, there will be serious discrepancy between the actual behavior of individuals and the behavior which would conduce to "the greatest happiness of the greatest number." It is the function of legislation to coerce or bribe individuals to make their behavior coincide with that required by the greatest-happiness principle, and of education and moral leaders to mould men's desires so that they spontaneously associate the happiness of others with their own happiness.

Bentham nowhere attempts or asserts the possibility of a positive demonstration that greatest happiness, whether as hedonism or as eudaemonism, is the proper moral objective for the common man, the moral leader, or the legislator, and his only argument in support of the greatest-happiness principle is the negative one that the rival principles proposed by other ethical systems are either resolvable upon scrutiny to verbal variants of the utility principle, or are sheer *ipse dixitism*, or are meaningless patterns of words.

⁸ Cf. for example, the preface, first added to the 1823 edition, of his *Introduction to the Principles of Morals and Legislation*, where he says that "an introduction to a penal code" would have been a title better indicating the nature of its contents.

⁹ Cf. "Gamaliel Smith" [=Jeremy Bentham], *Not Paul, but Jesus* (London, 1823), p. 394: "happiness, to be anything, must be composed of pleasures: and, be the man who he may, of what it is that gives pleasure to him, he alone can be judge."

"Pleasure" and "happiness" were to Bentham widely inclusive terms, involving not only the pleasures of the senses but also those of the heart and the mind. Pleasures, moreover, which in their "simple" or primary form, genetically speaking, were pleasures of self could by "association of ideas" become associated with the pleasures of others. Man, by living in society, by education, and by acts of parliament, could be made good. The eighteenth-century utilitarians may have traded, as a German philosopher has put it, "in the small wares of usefulness (*Nutzlichkeitskrämerei*)."¹⁰ Or it may be that to accept the pursuit of pleasure as a proper end of man is "swinish doctrine," if it be proper to assume that man pursues swinish pleasures. But a utilitarian does not have to be a Philistine. If in Bentham's exposition of his psychology there was often undue stress on the selfish sentiments, this fault—which was much more evident in James Mill than in Bentham—was the result of lack of imagination and of feeling, or of faulty observation—itsself the consequence of these lacks—rather than any inherent incompatibility of broader views with the logic of his system. One important manifestation of this—systematic on the part of James Mill but only occasional and incidental on the part of Bentham—was the assumption that even when one's own pleasure had through association of ideas become involved in the pleasure of other persons, the affectionate sentiments toward others still contained an element of conscious reference back to one's own pleasures. This, by implication at least, was a proclamation of the universal prevalence of psychological hedonism.¹⁰

The eighteenth century is often termed the "Age of Reason," and it is correctly so termed if by the phrase is meant that it was the age in which philosophers held that the credibility of all things should be tested by reason. But from the point of view of its prevailing psychological doctrines, it could more properly be called the "Age of the Passions" because of its stress on the emotions and the instincts, the affections and aversions, and its playing down of the role of reason in the behavior of the ordinary man. David Hume was writing in the spirit of his times when he declared that: "Reason is and ought only to be the slave of the passions, and can never pretend to any other office than to serve and obey them." The normal role of reason was that of an obedient servant of the passions, a passive agent for the comparison of their relative intensities and for the justification of the choices made between them. "So convenient a thing," said Bentham in his Autobiography, "it is to be a reasonable creature, since it enables

¹⁰ In notes to his edition of James Mill, *Analysis of the Phenomena of the Human Mind* (London, 1869), J. S. Mill, without fully admitting that his father had held this doctrine, points out passages which could be interpreted as implying it. See II. 217, note; II. 224, note; II. 286 ff. note, etc.

one to find or make a reason for everything one has a mind to do."

For the moral philosopher and the properly conditioned legislator, however, Bentham assigned more important roles to reason, first, that of moulding the passions of individuals so that they would contribute more to the augmentation of general happiness, and second, that of providing a technique for the comparison of passions of individuals with a view to making a socially oriented choice between them where choice had to be or could be made. It was for this social purpose, and not for the routine behavior of routine individuals, that Bentham endeavored to construct what he at different times labelled as a "moral thermometer," a "moral arithmetic," a "felicific calculus."

Much amusement has been derived from Bentham's attempt to develop a technique by which the quantities of pleasure and pain could be measured by the legislator or the benevolent philosopher. Wesley Mitchell's well-known essay on "Bentham's Felicific Calculus,"¹¹ is the fullest and the least unsympathetic account I am acquainted with of Bentham's position on this question. Mitchell points out the excessive degree of hedonism attributed by Bentham to mankind, and comments penetratingly on Bentham's attempt to find a common denominator through money for the pleasures of different persons. Mitchell says that in fact Bentham used the calculus not as an instrument of calculation, but as a basis of ordinal classification. "It pointed out to him what elements should be considered in a given situation, and among these elements *seriatim* he was often able to make comparisons in terms of greater and less—" I think this is a somewhat misleading description of Bentham's method. The "classification" was not *seriatim*, was not in terms of higher and lower, but merely of pro and con, of pleasure and pain, and was wholly preliminary to rather than part of the calculus. The "calculus" as he actually used it was merely a mental comparison of the comparative weights of the pros and cons, a technique which neither calls for fancy labels nor is properly conducive either to merriment or to measurement.

Bentham did not invent the concept or the terminology of "moral arithmetic." Play with the idea of measuring the unmeasurable and resort to the language of measurement where it was silly to attempt to apply it goes back to at least the seventeenth century, when the prestige of geometry and later of algebra tended to trap all philosophers with scientific pretensions into casting their analysis into pseudo-mathematical form. Mandeville, as early as 1730, laughed at physicians who studied mathematics because it was fashionable, and cited one who had advised that for certain diseases "the doses of the medicines

¹¹ Reprinted in W. C. Mitchell, *The Backward Art of Spending Money* (New York, 1937), pp. 177-202.

are to be as the Squares of the Constitutions."¹² Thomas Reid, in his *Essay on Quantity* of 1748, questioned the possibility of reducing to measurement such things as sensations, beauty, pleasure, and the affections and appetites of the mind, even though they "are capable of more and less," and he warned that to apply mathematical language to non-measurable things "is to make a show of mathematical reasoning, without advancing one step in real knowledge."¹³

Bentham never went far afield for the sources of his ideas, and I suspect that Benjamin Franklin was his source, direct or indirect, for this idea of classification by "bipartition" plus "measurement" of the relative weight of the two classes. Franklin a few years earlier, in 1772, had been expounding it in private correspondence with Joseph Priestley and Richard Price—with all three of whom Bentham had personal contacts—in very much the same terms as Bentham was later to use, and under the similar, and already old, label of "moral or prudential algebra."¹⁴

None of Bentham's immediate disciples showed any interest in this aspect of Bentham's thought, and it was not until Jevons drew attention to it and made it the basis of his subjective theory of economic value that it had any influence, for good or bad. I like to think, more so probably than Wesley Mitchell would have appreciated, that Bentham's felicific calculus was merely one more manifestation of the inferiority complex which practitioners of the social "sciences" had in the eighteenth century, and have reacquired in the twentieth, towards mathematics, towards the exact sciences, and towards quantification as one of the higher virtues. Since with the application of "political arithmetic" to "moral arithmetic" we now all accept without protest the derivation of measured "propensities" from correlations between psychologically and otherwise promiscuous statistical aggregates compiled catch-as-catch-can on anything up to global scale, our readiness to laugh at Bentham's modest and wholly platonic gestures in this direction excites my propensity for amazement.

There remains one question, specially important for economics, where the influence of Bentham on J. S. Mill is obvious, the question of laissez-faire, or the economic role of government. Élie Halévy, in his great but tendentious work on the Benthamites,¹⁵ has made much of the existence in Bentham's system of a conflict between his juristic and

¹² Bernard Mandeville, M.D., *A Treatise of the Hypochondriack and Hysterick Diseases*, 2nd ed. (London, 1730), p. 184. Compare the history of "Lullism."

¹³ *The Works of Thomas Reid*, Sir William Hamilton, ed., 3rd ed. (Edinburgh, 1852), p. 717.

¹⁴ *The Monthly Repository*, Vol. XII (1817), p. 13, and *Proceedings of the Massachusetts Historical Society*, 2nd ser., Vol. XVII (1903), p. 264.

¹⁵ *La Formation du Radicalisme Philosophique*, 3 vols. (Paris, 1901-1904). There is an inferior edition in English in one volume.

his economic doctrines. According to Halévy, Bentham in his juristic theory makes it the primary function of government to create an *artificial* harmony between the interests of individuals and the public interest, whereas in his economic theory he reaches laissez-faire conclusions on the basis of an implied natural or spontaneous harmony of interests. This has become a stereotype of present-day comments on Bentham, and although there may be exceptions to the natural law which proclaims that stereotypes in the field of the history of ideas provide a light which blinds rather than guides, this is not one of them.

Bentham did interpret the function of government, under the influence largely of Helvétius, as that of creating, through the application of rewards and punishments, an approach to harmony between the interests of individuals and the social interests. He did prescribe limits for the field for governmental intervention in economic matters, but these limits were not, as we shall see, very narrow ones, and in any case were not so narrow as to give scope for a doctrine of natural harmony of interests, in the sense of a harmony preordained or inherent in the nature of man living in a society unregulated by government. Of explicit formulation by Bentham of a doctrine of natural harmony I can find not the slightest trace in his writings, and such a doctrine would be in basic conflict not only with his juristic theories but with his whole cosmological outlook. Faith in natural harmony always stems from either faith in the continuous intervention of a beneficent Author of Nature or faith in the workings of a natural evolutionary process, and the Benthamites rejected the former and had not yet heard of the latter.

It has been common since Adam Smith's day to take for granted *in economics* the role of the state with reference to the protection of legal property rights and the enforcement of contracts, leaving it to juristic inquiry to explore the problems of theory and of practice in this field. Such was also the procedure of Bentham, and in his juristic writings he keeps very much in mind that "passion . . . from the excesses of which, by reason of its strength, constancy, and universality, society has most to apprehend; I mean that which corresponds to the motive of pecuniary interest."¹⁶ Here he deals with the problem of "repression" of harmful economic activity by means of civil and penal law. If Bentham believed that there was a natural harmony of private and public interests in the economic field, it was one, therefore, which would prevail only after the magistrate and the constable had performed their duties.¹⁷

¹⁶ "Introduction to the Principles of Morals and Legislation," *Works*, Vol. I, pp. 90-91.

¹⁷ Bentham deals briefly with the relations between political economy and law in "A General View of a Complete Code of Laws," *Works*, Vol. III, pp. 203-4.

But Bentham does not advocate anything like "anarchy plus the constable." His most general proposition of a laissez-faire character is as follows: ✓

With the view of causing an increase to take place in the mass of national wealth, or with a view to increase of the means either of subsistence or enjoyment, without some special reason, the general rule is, that nothing ought to be done or attempted by Government. The motto, or watchword of Government, on these occasions, ought to be—Be Quiet.¹⁸

This may sound like a sweeping enough support of laissez-faire, if, as is common though rarely desirable practice in such matters, it be read carelessly and out of its context. There are important qualifications, explicit or implied, within this apparently emphatic text. First, the text deals with "encouragement" and not with "repression" of economic activity. As I have already pointed out, Bentham deals with the problem of repression of harmful economic activity as a problem in law and not in economics. Second, the general rule of doing nothing positive is applicable only if there is no special reason to the contrary. A rule is not equivalent for him to a principle, nor a "motto" to a dogma.

Bentham presents three grounds for the general rule against governmental activity of a positive kind in the economic field: (1) in this field, individuals know their own interest better than government can; (2) individuals operate more ardently and more skillfully in pursuit of their own interests than government can or will operate on their behalf; (3) governmental intervention means coercion, either directly or indirectly through taxation, and coercion involves "pain" and therefore is an evil.

Bentham is ready to approve of any departure from the general rule, however, if a case can be made for such departure on utility grounds. "Indiscriminate generalizations" are an error, he says, and "In laying down general rules, [even] fortuitous and transient cases ought not to be forgotten." And he lives up to his doctrine as, for instance, when he says that "what ought not to be done with the intention of supporting an unprofitable branch of trade, may yet be proper for preventing the ruin of the workmen employed in such business," or, when opposing in general any restrictions on the introduction of labor-saving machinery, he approves, however, of transitory aid to workmen injured economically by such introduction.

Bentham does not, moreover, limit his exceptions from the non-intervention rule to fortuitous and transient cases, but presents an elaborate analysis of the circumstances under which government should

¹⁸ "Manual of Political Economy," *Works*, Vol. III, p. 33. All subsequent citations of Bentham are from the "Manual."

not ("non-agenda") and those under which it should ("agenda") intervene. The argument may, to some tastes, be weighted too heavily on the side of *non-agenda*, but it is free from any dogma except the utilitarian one with which it is supposed by Halévy to clash.

Whether government should intervene, says Bentham, should depend on the extent of the power, intelligence, and inclination, and therefore the spontaneous initiative, possessed by the public, and this will vary as between countries. "In Russia, under Peter the Great, the list of *sponte acta* being a blank, that of *agenda* was proportionally abundant." Government has special responsibilities for providing security against food shortages as well as military security. He approves of government aid in the construction of roads, canals, iron railways, of public hospitals for the sick, hurt and helpless, of public establishments for the "occasional maintenance and employment of able-bodied poor," and, as we have seen, of public health activities on a scale still unknown. He was an ardent advocate of general education at public expense and he urged the extension of governmental registration services to make fraud more hazardous—and also of the systematic collection of economic statistics, but with a proviso which I suspect saps his concession of most of its virtue for modern statisticians, namely, that "no institution should be set on foot for the furnishing any such articles, without a previous indication of the benefit derivable from such knowledge, and a conviction that it will pay for the expense." ✓

Whatever its merits or defects, this treatment of the economic role of government is not in manner or substance doctrinaire, is not in any detail, as far as I can see, inconsistent with his general "principle of utility," and does not have in it, explicitly or implicitly, any trace of a doctrine of natural harmony of interests. It is to be borne in mind, moreover, that the best Bentham hopes for after all that can be done artificially to harmonize private interests with the public interest will still be far from perfect harmony. This has, indeed, been made the basis from another point of view of attack by moral philosophers of other faiths against utilitarianism: it is taken to task for failing to build a bridge between individual and general happiness. But this would be a valid criticism only if either it had professed to have succeeded in doing so and failed, or if it were a proper demand of *any* moral philosophy that it should provide a *practicable* scheme of perfect harmony of interests. Bentham did not completely bridge the gulf between private interests and the general interest, but neither did he deny the existence of such a gulf, and he did propose two ways, education and government, by which the gulf could be somewhat narrowed—with religion, though grudgingly, accepted as a useful part of education in so far as it educates for virtue. Does anyone know of a third way?

I turn now to John Stuart Mill. His famous *Autobiography*—revealing, but not as much so as he no doubt intended—made generally known the extraordinary intellectual régime to which he had been subjected as a boy by his father, and the precocity which resulted from it. In 1822, at the age of sixteen, he was engaging the redoubtable Robert Torrens in battle in the pages of an important newspaper about the theory of (economic) value. Before he was twenty he had edited Bentham's three-volumed work on the *Rationale of Evidence*, had published at least seven major articles in important periodicals on economic, political, and legal matters, had pointed out with great assurance and even less reverence the literary, political, economic, philosophical, and ethical shortcomings of the august *Edinburgh Review*, and had been arrested for distributing birth-control pamphlets.

In this first stage of his career, drilled to a rigid adherence to the Benthamite canon, J. S. Mill was a zealous exponent of Bentham's, and of his father's moral and political doctrines and of Ricardo's economics. In 1826, however, when still in his twentieth year, he underwent a mental crisis, which continued intermittently for several years and which brought him sieges of mental depression, as well as an intellectual conversion which he was later, in his *Autobiography*, to describe as akin to a religious "conviction of sin," the sin being in effect Benthamism.

It is conceivable that J. S. Mill's main trouble was primarily due to overwork, but his own explanation was that the sudden realization that the Benthamite doctrines left the nobler human feelings too much out of account and did not offer a sufficiently full prospect for human happiness had proved more than he could take. During these and subsequent years, he manifested the characteristic which was to remain prominent in all the rest of his career, his susceptibility to influence from widely diverse ideas or, as he was later to put it in his *Autobiography*, his "great readiness and eagerness to learn from everybody, and to make room in my opinions for every new acquisition by adjusting the old and the new to one another." New winds of doctrine were impinging on his mind, which was then as open as a prairie: Wordsworth's nature-poetry, with its reverence for beauty and its revelation—for a Benthamite—that there were other fruitful sources of impressions than those provided by syllogisms; the reading of one of Comte's early works and personal associations with Saint-Simonians, which brought him into contact with the new historical approach to social thought; Macaulay's refutation in the *Edinburgh Review* of his father's *a priori* demonstration of the superiority of democracy to aristocratic government; the conservative political views and the more-or-less orthodox religious views of his friends John Sterling and Frederick Maurice; the feudalistic and pre-

fascistic doctrines being expounded with fiery moral passion by Carlyle; and so forth. From all of them he borrowed something, although never as much as he then supposed, and for the most part not for keeps.

For a time, while his dour and magerful father still lived, the younger Mill did not break openly with the Benthamites, but his personal relations with the school became strained—more so, in fact, than he was ever to be aware of. Bentham, however, died in 1832 and James Mill in 1836, and freed from the restraint of their disapproval and evident disappointment, J. S. Mill began to explore the new ground on which he not too firmly stood by the hazardous procedure of putting his thoughts in print for the public to read.

The break was sharpest in the field of private ethics, where Bentham's and James Mill's interest had been least. In his economics, J. S. Mill remained faithful to the Ricardian doctrines as he understood them—and, to some extent, improved upon them in the process of interpreting them. In any case, the Ricardian economics was not wholly acceptable to Bentham, nor Bentham's economics at all acceptable to Ricardo. In the fields of politics and of law, J. S. Mill proclaimed some major departures in his thinking from the views of Bentham, but he never specified what they were. I think that, apart from some wavering as to the virtues of political democracy and some approaches to the benevolent Toryism of Coleridge, Wordsworth, Sterling, and Maurice, these were mainly methodological, loss of faith in the adequacy of the "geometrical" method in politics, rather than substantive.¹⁹ With his father's writings he never, it seems to me, dealt with complete frankness, and he reserved for Bentham blows which could more justly have been directed against James Mill. The harshness and vehemence of the attack on Bentham was no doubt a subconscious manifestation of the urge he was under to free himself from what he had come to feel was an intellectual straitjacket, but it had been his father rather than Bentham who had placed it on him.

The attacks on Benthamism began in 1833, while his father was still living but after Bentham had died, with critical "Remarks on Bentham's Philosophy" included, under cover of anonymity, as an appendix to Bulwer Lytton's *England and the English*. In 1838, or two years after his father's death, he published in the *London and Westminster Review* his famous full-dress article on Bentham, again anonymous, but with the authorship inevitably known at once to friends

¹⁹ For his attempt to substitute, under Saint-Simonian influence, a philosophy-of-history approach, see his series of essays on "The Spirit of the Age," originally published anonymously in the *Examiner* in 1831, and reprinted in 1942 by the University of Chicago Press, with a characteristically learned and penetrating introduction by F. A. Hayek.

and foes. In 1840, he published in the same *Review* an article on Coleridge, which, by its sympathetic treatment of the latter's ethical and political views, was indirectly a criticism of Benthamism.

Meanwhile, in 1835, in a review in the *London and Westminster* of a book by Adam Sedgwick which criticized utilitarian ethics as expounded by Paley, he had defended the principle of utility when properly expounded, but without mentioning any names had remarked that for a full exposition of it additional materials were needed beyond those already to be found in the writings of philosophers.

In these articles Mill was clearly endeavoring to salvage, or at least shrinking from abandoning, a utilitarian system of ethics while rejecting such features of Bentham's system as he could no longer tolerate. There was high praise, therefore, for Bentham as well as sharp blame. His main criticism of Bentham related to his treatment of private morals and of psychology, and especially the stress Bentham put on the role played in human behavior by calculation of gain or loss. He objected also that Bentham, by shifting from a technical (or broad) meaning of terms—and especially of the term "interest"—to a popular (or narrow) meaning, often slid into an account of human behavior which pictured it as inherently selfish. He explained this—unkindly—in terms of Bentham's personality. Bentham, said Mill, intellectually recognized the possibility of generous action, of benevolence, but "the incompleteness of his own mind as a representative of universal human nature" led him to regard genuine benevolence as rare and therefore unimportant in real life.

In many of the most natural and strongest feelings of human nature he had no sympathy; from many of its graver experiences he was altogether cut off; and the faculty by which one mind understands a mind different from itself, and throws itself into the feelings of that other mind, was denied him by his deficiency of Imagination.²⁰

There was a basis for Mill's criticisms. That Bentham frequently fell into language which pictured human behavior as if it consisted almost solely of action based on calculations of personal gain and that his imagination was deficient with respect to the possible range of human emotions is beyond dispute. But Mill goes further in his criticism at some points than the texts he cites, or their context, justifies, and in doing so disregards peculiarities of the Benthamite terminology which at other times, when his attitude had changed, he was to invoke against misinterpretations of Bentham at other hands. I can here deal with only one of these misinterpretations. Mill points out that if in

²⁰ "Bentham," reprinted in J. S. Mill, *Dissertations and Discussions*, 3rd ed., L. 1875, I. 353.

Bentham's *Table of the Springs of Action* we find such words as "Conscience," "Principle," "Moral Rectitude," "Moral Duty," which in the mouths of others represent recognition of such a thing as conscience as a thing distinct from philanthropy, affection, or self-interest in this world or the next, it is as synonymous for "love of reputation," and that the word "self-respect" appears not at all either here or in any of Bentham's writings.²¹ The critics of Bentham who have since made the same criticism and cited his *Table of the Springs of Action* as evidence are beyond enumeration.

There is only too much ground for criticism of Bentham for not using words quite as other men do, provided that deviation on his part from the common use of terms is not taken as reliable evidence of deviation from the common run of thought on the questions with which these words are usually associated. But Mill, who should have known better, makes use here of this kind of argument against the one person of all who by his discussions of the logic of language had made himself least vulnerable to it. Moreover, Bentham in his writings does use "conscience" and "duty" very much as other men do, and if he did not use "self-respect," his stock of synonyms was adequate to fill the void.

The *Table of the Springs of Action*, however, itself provides a more direct, though only a partial, answer to Mill's criticism. The psychology of Hartley and of James Mill from which Bentham started distinguished between "simple" pleasures, and "complex" or "compound" pleasures derived from the "simple" ones genetically by the processes of "association of ideas." Benevolence, generosity, duty, justice, conscience, and so forth would be "compound" pleasures. But Bentham expressly says of the *Table*—which is sufficiently formidable as it stands—that: "The pleasures and pains here brought to view are, every one of them, *simple* and *elementary*."²² He does cite a few "Compound Pleasures," as illustrative of one broad category of such excluded from the table. One of these, "Love of Justice," has as one of its components "Sympathy for the community at large, in respect of the interest which it has in the maintenance of justice." Mill was later to emphasize love of justice as one of the major virtues. His present refusal to be satisfied with Bentham's recognition of it as one of the "Springs of Action" was perhaps a not too captious suspicion that the words added to it by Bentham made of it a less admirable virtue than if Bentham had written merely "Love of Justice (Period)." But it was common ground among the Benthamites, including J. S. Mill, that the tone and moral significance of "compound pleasures" could be radically different from

²¹ *Ibid.*, I. 359.

²² *Works*, I. 207.

the tone and original significance of their component elements, the "simple pleasures" from which they had been compounded. ✓

By the time Mill was working on his *Principles of Political Economy*, he had swung back a large part though not all of the way to Bentham's political theory and moral philosophy. What was left of his revolt was confined mostly to a continued insistence on recognition of the complete range of human feelings and a consequent endeavor to avoid exaggerating the role of rationalistic hedonism in human behavior.

William Whewell, an anti-utilitarian professor of moral philosophy at Cambridge University where an even narrower type of utilitarianism with hell-fire trimmings—"theological utilitarianism," it was later to be labelled—had until his advent reigned unchallenged for over a century, in 1838, on the appearance of Mill's article on Bentham, had in private correspondence with a friend welcomed Mill's recantation, but complained—with some justice—of its manner:

It is certainly very encouraging to see on all sides strong tendencies to a reform of the prevalent system of morals. The article [by Mill] in the *London Review* is an indication of this, and appears to me to be in many important points right, and at any rate right in the vigorous rejection of Bentham's doctrines and keen criticism of his character. But I confess I do not look with much respect upon a body of writers, who, after habitually showering the most bitter abuse on those who oppose Bentham's principles, come round to the side of their opponents, without a single word of apology, and with an air of imperturbable complacency, as if they had been right before and after the change. Nor do I see any security, in their present creed, against a change of equal magnitude hereafter.²³

This was real prescience on Whewell's part. In 1843, in conversation about the surviving disciples of Bentham, Mill made the remark which "though smilingly uttered . . . was not at all a jest" that as for himself: "And I am Peter, who denied his Master."²⁴ In 1852 Mill was to write a critical review of Whewell's *Lectures on the History of Moral Philosophy in England*, published in the same year. Conceding very little error in the Benthamite doctrine, Mill rejected vehemently Whewell's objections to utilitarian ethics in general and to Bentham in particular, even when they were very similar indeed to his own criticism of Bentham in 1838.

The final stage in Mill's presentation of his ethical views was in 1863, when his essays on Utilitarianism appeared. In form, these still represented an adherence to the doctrine, but so modified by the admission without obvious absorption of foreign elements that they have

²³ Mrs. Stair Douglas, *Life of William Whewell* (London, 1881), pp. 270-71.

²⁴ David Masson, "Memories of London in the 'Forties,'" Blackwood's, Vol. CLXXXIII (1908), p. 553.

been the despair of its friends and the delight of its critics ever since. Acts were to be morally appraised solely in terms of their consequences for happiness—a strictly Benthamite proposition. *All* consequences, however, were to be taken into account, including the effects on the character of the agent—an early doctrine of Mill's, which he derived from Coleridge and which he regarded as contrary to Bentham's views, mistakenly, I think. Happiness was conceived broadly enough to cover every type of wish or aspiration man could experience. Mill—unwisely, I think—went a step further than Bentham ever ventured by offering a “proof” that happiness was the proper criterion of virtue: namely, that competent judges accepted it as such, a type of proof which eighteenth century critics of the “moral sense” school of ethics had exposed to ridicule for its circularity.

Mill now attempted also to incorporate into utilitarianism a novel element for it and one which many moral philosophers hold to be incompatible with it, namely, the recognition of non-homogeneity of pleasures and consequently the existence of qualitative differences of a hierarchial nature, as well as quantitative differences, between pleasures:

It is quite compatible with the principle of utility to recognize the fact, that some *kinds* of pleasure are more desirable and more valuable than others. It would be absurd that while, in estimating all other things, quality is considered as well as quantity, the estimation of pleasures should be supposed to depend on quantity alone.²⁵

The test of quality as between two pleasures was the preference “by those who are competently acquainted with both” of the one above the other despite the fact that the other represented a much greater quantity of pleasure.²⁶

I venture to suggest: (1) that the problem as Mill presents it, that is, within the limits of utilitarianism, is a spurious one; (2) that what he proffers as a solution is even more spurious; and (3) that Bentham and his predecessors to some extent and modern economists using utility theory to a larger extent, have provided a technique which, while it does not solve any fundamental moral problem, suffices to show that a dichotomy and possible clash between ratings of values on the basis of quality and their rating on the basis of quantity is not one of the fundamental moral problems.

²⁵ J. S. Mill, *Utilitarianism*, 3rd ed. (London, 1867), pp. 11-12.

²⁶ *Ibid.*, p. 12. In an undated manuscript “On Social Freedom,” found in Mill's house at Avignon after his death, and published, among other places, in *Living Age*, 7th ser., Vol. XXXVI (1907), pp. 323-36, there is a stronger statement of the higher-lower thesis with the order of rank made a pure matter of “feeling,” not subject to demonstration or to argument—a complete swing back to the eighteenth century “moral sense” school.

Pleasures—or desires—are of course not homogeneous with respect to every conceivable quality they may possess—any more than are any other objects of human attention except abstract numbers. Comparison is—or should be—always with respect to specified qualities of objects, and if there is possibility of and proper occasion for measurement the measurement is also with reference to these specified qualities.

Mill confuses the issue by attempting at the same time to give predominant importance to the ordering of *classes* of pleasures on a higher-lower scale and to leave room for legitimate preference in particular cases of a pleasure of a lower order over one of a higher. This is the famous and ancient false dilemma of the water-*versus*-diamonds problem in economics, extended to the whole field of values. Whatever may be the case for didactic purposes, for actual behavior—including “moral” behavior—the issues arise in the form of necessary choices between units and not between classes of objects. Bentham’s famous dictum “Quantum of pleasure being equal, pushpin [a children’s game] is as good as poetry” would meet all the proper requirements of the utilitarian principle if restated somewhat as follows: “Desire being equal at the margin of choice, a marginal unit of pushpin is as good as a marginal unit of poetry.” The utilitarian but didactic moralist would still be free to insist that since in fact experienced choosers don’t plump for even a first unit of pushpin until they are gorged with poetry, *in that sense* poetry as a class is higher on the scale of values than pushpin as a class.

I come now at long last to Mill’s *Principles of Political Economy*. He wrote this two-volume book in less than two years, and when he began it he expected it to take only a few months to write. For at least ten years prior to this, he had not given much attention to economics. It was designed to do for Mill’s time what Adam Smith had done for his, and to present what was known of the “Principles of Political Economy” as a science, together with their applications to concrete problems and, in the words of its title page, “some of their Applications to Social Philosophy.” By the “science” of political economy Mill meant a body of deductive analysis, resting on psychological premises derived from introspection and observation of one’s neighbors, and even with respect to these premises abstracting from all aspects of human behavior except those most intimately and most generally associated with the business of buying and selling. When Malthus, in 1824, objected that the “new school” of Ricardians had “altered the theories of Adam Smith upon pure speculation,” Mill had replied: “it would, indeed, have been somewhat surprising if they had

altered them on any other ground."²⁷ Later, as the result of Comtean influence and of his investigations in logical method, Mill was more receptive in principle to the possibilities of historical induction. But it is clear that he never assigned to it the right to an independent role in the "science" of political economy. Writing in 1835 with respect to the historical form of the inductive method, he had said:

History is not the foundation, but the verification, of the social science; it corroborates, and often suggests, political truths, but cannot prove them. The proof of them is drawn from the laws of human nature; ascertained through the study of ourselves by reflection, and of mankind by actual intercourse with them. . . . The usefulness of history depends upon its being kept in the second place.²⁸

This was, of course, standard methodological doctrine, and to a large extent practice, in English social thought since Hobbes. Inquiry was to be pursued by means of deductive reasoning resting on psychological premises obtained empirically, but chiefly through introspection—which, it should always be remembered, was universally regarded in the past, whatever may be the fashion today, as an "empirical" technique of investigation, and sharply distinguished from intuition, or "innate ideas." But in J. S. Mill, as methodological doctrine, it has less significance than for most of his predecessors, since he confines it to the "scientific" part of Political Economy, stresses the importance of "applications" which can proceed by a wider range of logical methods, gives repeatedly at least platonic warnings that any abstraction from reality must be allowed for before the results of such analysis are made the basis for pronouncements on policy, and rejects it for every other established branch of social thought.

Of his earlier rebellion against the psychology of Bentham and of his father, the most important residue for his economics was probably his repeated emphasis on the importance of custom as a rival to the competitive principle, especially in connection with land-tenure and the relations of landlord and tenant. Here he showed the influence of Richard Jones, one of the pioneer advocates of resort to systematic induction in economics. But this presented J. S. Mill with somewhat of a methodological dilemma, which he never succeeded in resolving. "It is unphilosophical," he wrote, "to construct a science out of a few of the agencies by which the phenomena are determined, and leave the rest to the routine of practice or the sagacity of conjecture."²⁹ On

²⁷ In a review of the article by Malthus in the *Quarterly Review*, No. LX, criticizing McCulloch's "Political Economy" article in the *Supplement* to the fourth edition of the *Encyclopaedia Britannica*, *Westminster Review*, Vol. III (1825), p. 213.

²⁸ "Professor Sedgwick's Discourse on the Studies of the University of Cambridge," *Dissertations and Discussions*, Vol. I, pp. 112-13.

²⁹ *A System of Logic*, 3rd ed., Vol. II, p. 472.

the other hand, "only through the principle of competition has political economy any pretension to the character of a science,"³⁰ a proposition which F. Y. Edgeworth was later in effect to repeat, when he wrote that if monopoly should prevail over a large part of the economic order:

Among those who would suffer by the new regime there would be [included] . . . the abstract economists, who would be deprived of their occupation, the investigation of the conditions which determine value. There would survive only the empirical school, flourishing in a chaos congenial to their mentality.³¹

We seem, however, to have found another alternative, that of becoming amateur lawyers.

Mill thus had no technique for dealing systematically with the analysis of economic process where competition was encroached upon either by custom or by monopoly, and when he did mention custom—or monopoly—he left it to the reader to estimate its importance and to make the necessary corrections in the conclusions he had reached on the basis of abstractions from these complicating factors. For himself, he assumed the responsibility only for that "uncertain and slippery intermediate region," between "ultimate aims" and "the immediately useful and practicable."³² Logicians and physical scientists have the right, I suppose, to jeer at Mill's failure to extricate himself from this plight. For those among us, however, upon whom the redeeming grace has not as yet been bestowed of that special ideology which takes the form of faith in the capacity of statistical method to perform logical miracles, humility is prescribed, since we are all in the same fix.

The *Principles* thus has no single methodological character. As is the case with the *Wealth of Nations* of Adam Smith, some portions are predominantly abstract and *a priori*; in others, there is a substantial measure of factual data and of inference from history. Its wide range of subject matter; the success with which the lucidity of its style and the nobility of its outlook on life divert attention from its lack of logical rigor; the patent honesty and open mindedness with which controversial issues are treated; these and other qualities made it probably the longest-lived textbook our discipline has ever had or ever will have. It was the text used in the first college course in economics I took, over sixty years after its first publication. Francis Walker's *Political Economy* was also assigned to us, and I think we showed good judgment when we labelled the course, as students will, "Milk and Water." Writing in 1832, Mill had presented a forceful case in defense

³⁰ *Principles of Political Economy*, Bk. II, Chap. IV, "Of Competition and Custom."

³¹ "The Pure Theory of Monopoly," [1897], *Papers Relating to Political Economy* (London, 1925), Vol. I, pp. 138-39.

³² *Autobiography* (London, 1873), p. 189.

of ambiguity in language, on the ground that it was for many persons the price which would have to be paid if important ideas which by their richness and variety of content it is difficult to make clear were not to be sacrificed on the altar of logical clarity.³³ The *Principles*, I think, demonstrate that for Mill himself this was good doctrine; it would have been an inferior book, much less rich in content—and much smaller in size—if Mill had thrown out all that was ambiguous and lacking in strict logical consistency. ✓

What most struck his contemporaries in the contents of the *Principles* was the sympathetic manner in which Mill dealt with proposals for radical change along socialist lines in the economic structure of society. The sympathy was in large degree platonic, for in no major concrete instance did Mill actually commit himself to the desirability of a specific drastic change. Mill aspired after the millennium, but he found abundant reason why it was not and should not be wished to be imminent. He looked forward, mostly on ethical and humanitarian grounds, to substantial socialization of the institution of property at some time in the vague future. Meanwhile, however, he warned against any weakening of the institutions of private property, free competition, and the rule of the market. This combination of hard-headed rules and utopian aspirations was just exactly the doctrine that Victorians of goodwill yearned for, and it made a large contribution to the popular success of the book.

Mill's handling of the problem of laissez-faire was a case in point. Except for the difference in tone and feeling, the fuller expression of lofty ideals and impracticable aspirations, it was substantially similar in method of analysis and nature of conclusions to Bentham's treatment. Like Bentham, and like all the other major classical economists except perhaps Senior—who was not a Benthamite—J. S. Mill gave only a very qualified adherence to laissez-faire. It was for him only a rule of expediency, always subordinate to the principle of utility, and never a dogma. The dogmatic exponents of laissez-faire of the time were the Manchester School, and Mill—like Torrens before him and Cairnes, Jevons, Sidgwick, Marshall, Edgeworth and others after him—denied repeatedly, and forcefully almost to the point of blasphemy, that the Cobdenites had either authority or logic to support them when they invoked the "Laws of Political Economy" to stop government from coming to the relief of distress.

It is, fortunately, not part of my assignment to appraise the technical economics of Mill's *Principles*. What I have tried to do is to show the intellectual relations between two men important in the history of our

³³ Review of G. C. Lewis, *Use and Abuse of Political Terms*, *Tait's Edinburgh Magazine*, Vol. I (1832), p. 164 ff.

discipline. From these two men several generations of British and American—and above all Canadian—economists, and to some extent also “liberal” continental economists, derived in large part the psychological, ethical, political, and methodological presuppositions upon which they built their economic analysis. With the ebbing of liberalism in the profession, the importance of knowing what its intellectual foundations were has become chiefly historical, and to those under fifty the historical is not obviously important. But for those *over* fifty, a comment of Tawney’s is relevant. “It is a wise philosopher,” he writes, the flatterer really meaning “economist,” “who knows the source of his own premises.”³⁴ I would go even further. It is an unusually alert economist who knows what his premises are, regardless of their source. For those over fifty study of Bentham and of Mill can do something to remedy both of these lacks. Beyond this remark, I make no attempt to draw any moral from what I have said. But I believe that in exercising this unaccustomed measure of self-restraint I am conforming to the “Principle of Utility” if broadly enough interpreted.

³⁴ Introduction to Raymond W. Firth, *Primitive Economics of the New Zealand Maori* (London, 1939).

PUBLIC EXPENDITURE POLICY

By PAUL J. STRAYER*

An increasing number of economists and political scientists are becoming concerned about the role of government in the economic affairs of the nation. Much of the recent writing on the subject has been negative and has emphasized the dangers of increasing governmental controls without offering any satisfactory solution to the problems that have made the increase inevitable.¹ On the other hand, most advocates of positive government intervention have not established a satisfactory basis for the long-run adjustment of relationships between the private and public sectors of the economy. This deficiency is recognized by such writers as J. M. Clark, F. D. Graham and Henry Simons.² Their greatest contribution has been their emphasis on positive long-run suggestions. This is a healthy trend and has been of great value. However, much more investigation and groping for solutions will have to be undertaken if guidance and leadership is to be given by moderate economists who would like to see the social and economic issues of the day met without resort to a planned economy. In particular, more attention must be directed to the problem of administration and the political implications of positive government economic programs. The inevitable interrelation and interaction of administrative and political forces with purely economic forces must be given greater emphasis if policy formulation is to be realistic and effective.

I. *Expansion of Government Influence*

One of the major difficulties of the present situation is the rapidity with which the expansion of direct government influence in the determination of market conditions has taken place. Prior to World War I, government finance was a minor factor. Even after World War I, the return to normalcy left the government in a relative insignificant position. It was not until the depression of the 1930's continued to the point where the inability of private business or private charity to cope with the situation was generally recognized that government became a major

*The author is assistant professor of economics in the department of economics and social institutions at Princeton University.

¹ For example, see L. von Mises, *Omnipotent Government* (New Haven, 1944) and F. A. Hayek, *The Road to Serfdom* (Chicago, 1944).

² J. M. Clark, *Alternative to Serfdom* (New York, 1948). F. D. Graham, *Social Goals and Economic Institutions* (Princeton, 1942). H. C. Simons, *Economic Policy for a Free Society* (Chicago, 1948).

factor in the determination of the economic welfare of not only the recipients of relief and assistance but also of the entire private sector of the economy. The rise of the New Deal was the outgrowth of the impact of these events. However, the tentative nature of early New Deal spending and the annual promise that the budget would be balanced the *next* year, indicated that there had not yet developed a consistent theory or program that would permanently give to government a major role in the economic life of the nation.

It was not until the publication of *The General Theory of Employment, Interest and Money* by John Maynard Keynes that the beginnings of a consistent theory for short-range government intervention was formulated. It was no accident that the rise of the inner circle of "New Dealers" who advocated the conscious use of fiscal policy, without regard to established tradition, dates from the publication of this book in 1936. The development of the concept and measurement of the national income also aided in the formulation of a short-run theory and has given statistical support to the belief that variation of the government net cash surplus or deficit could offset fluctuations in effective demand in the private economy. The appeal of the fiscal approach was that it did not depend upon an understanding of all the basic reasons for fluctuations in the private economy but could be turned on or off as necessary.

The limitations of the Keynesian and neo-Keynesian theory have become more obvious in the period since the end of World War II. Fiscal policy was designed to use in periods of depression. Its logic can also be applied to control inflationary developments but the practical difficulties are much greater than in depression. The fear of many economists today is that reliance on fiscal policy to support full employment may be impossible as an inflationary bias arising out of monopolistic trade union activity and large industrial concentrations may permit both unemployment and inflation to occur simultaneously.³ There is also need for much more discussion than has yet taken place of the basis for the selection of the controls necessary to achieve the income effects desired to stabilize the economy.

In spite of the limitations of recommendations made to date, there is little reason to believe that we can return to the general acceptance of the role of government that prevailed in the pre-depression era. The passage of the Employment Act of 1946 and the commitments of both political parties to support a stable economy are testimony to the fact

³ A. G. Hart, "The Problem of Full Employment," *Proceedings, American Economic Review*, Vol. XXXVI, No. 2 (May, 1946). J. J. Spengler, "The Role of the State in Shaping Things Economic," *The Tasks of Economic History*, Suppl. No. VII to *Journal of Economic History*, 1947.

that the government is bound to play a more important rôle than ever before. The magnitude of the level of government outlays has increased both absolutely and as a percentage of the total national income. Our times are not likely to see the trend reversed. The level of taxation has increased proportionately and the severity of current levies is such that the impact of federal taxation alone may be greater than any other force that can be isolated for separate consideration by the average citizen or business concern.⁴ Management of the public debt now dominates the securities markets and government debt policy is more significant than the combined decisions of the largest financial houses in New York. Banks and the banking system are directly affected by the debt policy of the government and the whole theory of central banking policy has been permanently affected by the growth and influence of Treasury operations.⁵

It is significant that this growth in government influence has not been the result of a program of increased government ownership of the productive resources of the nation but is largely the result of the tremendous increase in the extent of transfer expenditures, the increase in war and defense outlays (production of war equipment still in the hands of private producers), and the rapid expansion in the level of foreign commitments and requirements in the postwar world.⁶ The increase in direct control of factors of production that has taken place in the TVA and in the steady increase in public services such as public education, health, and housing have been less important in their effect on the aggregate. With the exception of the expansion in the field of river basin development along the lines of the TVA, and the possible expansion in the role of government in the field of atomic energy, there is no immediate indication that further expansion of government ownership of production will take place.

II. *Administrative and Political Problems*

At the same time these revolutionary changes in the role of government in the economy have been evolving, equally important changes

⁴L. H. Kimmel, *Governmental Costs and Tax Levels* (Washington, 1948). Kimmel estimates tax collections by the federal government will have increased from 6.3 to 14.5 per cent of the national income between 1940 and 1952 and for all governmental levels from 18.8 to 24.8 per cent in the same period (p. 131). This is a very conservative estimate.

⁵Two articles by H. C. Simons and the recent study by C. C. Abbott are good offsets to the assumption of the more extreme Keynesians that the public debt can increase indefinitely. See H. C. Simons, *op. cit.*, Chapters IX and X, and C. C. Abbott, *Management of the Federal Debt* (New York, 1946), *passim*.

⁶Kimmel's estimates for 1952 indicate a probable cash expenditure of 40.5 billions by federal, state and local governments. Of this total, national defense, veterans' benefits, interest on public debt and foreign loans and relief account for 20.6 billions. L. H. Kimmel, *Governmental Costs and Tax Levels* (Washington, 1948), p. 12.

have been forced by the course of events in the field of political organization and control, and in the field of public administration. As is the case in the evolution of the changing conception of the economic role of government, the political and administrative changes have been tentative and have yet to jell into a clearly defined pattern. As yet no theoretical framework has been developed that would compare in influence to the work of Keynes and the issues have been less clearly defined than in the case of the debate over the economic role of government. The magnitude of the change is no less, however, and the need for reappraisal of political and administrative processes of government no less important. The most severe barrier to the modification of political and administrative practice to meet new conditions is found in the rigidity of the basic structure of American government with its emphasis on the division of power between the three branches of government and the unfortunate pattern of the boundaries of the state and local governments. The result has been that major innovations have been accomplished by the creation of new methods of control superimposed upon the old antiquated structure or by the temporary ascendancy of the executive. As the economic changes have brought reaction, so the political and administrative improvisation to meet new conditions have been fought by groups who oppose any change in the patterns established over the years.

The importance of the political and administrative aspects of the new role of government is no less than the purely economic. Whether success or failure is to be achieved will be determined as much by the way in which the controls are administered and decisions made as by our understanding of the basic economic conditions and influences.

These introductory paragraphs suggest that the formulation of policy or recommendation of a positive program is much more difficult than has been admitted by most writers in the field of fiscal policy. They have tended to look at the arithmetic of the situation as revealed by models constructed on the basis of national income estimates and have neglected the extent and severity of the repercussions of the actual measures that would be necessary to implement their programs of government stabilization of effective demand. A new approach to the role of government has to be developed to replace older concepts or to serve as a complement to them. A brief review of some current expenditure policy suggestions will reveal how much is yet to be done before a coherent and effective framework may be constructed.

III. *Theory of Public Expenditures*

Prior to the Great Depression of 1929 most discussions of government expenditure policy assumed full employment. The role of the

state was restricted to preservation of law and order, national defense, provision of certain social services, expenditure for the preservation and development of the natural resources, and limited investment in generally approved public works. The typical discussion developed the dogma that the least government was the best and that the burden of proof for increasing government expenditures should rest on the advocates of expansion. No rules that would permit the translation of these generalizations into definite figures were devised. It was assumed that expenditures would not change radically in the short run although much comment was devoted to the long-run trend toward higher outlays.

The inadequacy of these generalizations was well understood by John Stuart Mill when he wrote, "But enough has been said to show that the admitted functions of government embrace a much wider field than can easily be included within the ring-fence of any restrictive definition, and that it is hardly possible to find any ground of justification common to them all, except the comprehensive one of general expediency; nor to limit the interference of government by any universal rule, save the simple and vague one that it should never be admitted but when the case of expediency is strong."⁷

The long-run tendency for rising expenditures on the part of all levels of government in the United States has continued in spite of frequent assertions of the traditional doctrine, the desirability of minimal public activity. It is this shift to increased government and less private control that is the basis of most of the objections to further expansion of government. However, in spite of all protests, demands for increased appropriations tend to be more frequent and potent than demands for reduction. The failure of periodic Congressional drives for budget curtailment is evidence of the power of public demand for high-level appropriations.

A satisfactory theoretical solution of the problem of distribution of government and private expenditures has not yet been advanced. The suggestion made by Hart that "the common sense of public expenditures is to carry them to the margin at which they are of equal social value with alternative, private expenditures of equal amount, irrespective of revenues,"⁸ is too narrow to be of much use in the formulation of policy. It ignores the fundamental source of difference among those interested in the effects of alternate policies on the basic economic and political institutions of the country. It is also impossible to arrive at a reasonable judgment on the merits of a particular level of expenditure

⁷ John Stuart Mill, *Principles of Political Economy*, Book V, Chap. 1.

⁸ A. G. Hart, "National Budgets and National Policy: A Rejoinder," *Am. Econ. Rev.*, Vol. XXXVI, No. 4, Pt. 1 (Sept., 1946), pp. 632-36.

without consideration of the repercussions of alternate means of raising the necessary revenue. This is just as important when new money or credit is used as when the revenue is obtained by taxation. The generally accepted imperfections of revenue, monetary and credit systems in the United States gives additional force to this argument. Even if there were a perfect tax system and the control of money and credit left nothing to be desired, the difference between public and private financing of a given level of expenditures would be significant and have to be weighed in the decision as to the proper balance. No marginal analysis can give even an approximate answer to such questions as these. Finally, there are differences in the effects and implications of different levels of government expenditure at different levels of employment and national income. It has been suggested that the level of public expenditures, except transfer expenditures for relief and other forms of assistance, should be appropriate to an estimated "normal" national income and fluctuations in income ignored.⁹ The bias of the writer is in this direction but the reasons for such a policy are much more political than economic. A decision to follow such a course must neglect or weigh lightly the changes in relative availability of factors of production and changes in the needs and demands of the community over the cycle or in contrasting periods of secular stagnation or boom.

Still more difficult is the treatment of the exogenous forces that loom so large in the budgets of today, such as war or the repercussions of war, political and moral commitments to other nations, and the operations of pressure groups and vested interests which have proved to be successful in obtaining subsidies or special privilege at the expense of the rest of the country. The fact is, that in the United States today there is a very limited area where the voter has an opportunity to weigh or consider the advantages and disadvantages of alternate expenditure policies.

One must conclude that the hope of obtaining unbiased advice and guidance from the economist or student of public finance on the question of public expenditure is dim. The subjective judgments of the writer are of much greater significance in determination of his position than are the tools of economic analysis. He can be of service, however, in presenting fully his estimate of the possible implications of alternate policies for the education of the public. Policy decisions should be made on the basis of the fullest possible information. There is still much that needs to be done to raise the level of the debate to the point where decisions will be based upon true wishes of the majority. There will always be differences of opinion. It is to be hoped, however, that

⁹ See Milton Friedman, "A Monetary and Fiscal Framework for Economic Stability," *Am. Econ. Rev.*, Vol. XXXVIII, No. 3 (June, 1948), pp. 245-64.

they will be brought to the surface and more fully explored in the future than they have been in the past.

IV. *Expenditure Trends*

The trend for larger and larger social service outlays has been established for many years. Needs for government services have grown with the technological developments and with the rise of urban concentrations of population. However, the most spectacular increase in government expenditure has been in the field of national defense and war. This reflects both technological developments and a changing conception of warfare in the modern world. Total war is a new development and the experience of World War II indicates that it requires the complete mobilization of all economic and social resources if it is to be prosecuted effectively. The next most important cause of growth in expenditures is the increase in transfer expenditures: for debt service, for social welfare and security, and for the veteran. It is obvious that a large part of this increase can be attributed to the past war.

The significance of this trend is much greater than the immediate impact of the benefits or costs to the various segments of society. In the process of granting benefits and imposing taxes necessary to finance this new level of outlay, political and administrative decisions are becoming more and more significant in economic affairs. The character of output, the distribution of the output, and the total amount of production are all affected in ways that do not conform to the ideal of a free-market system. The only reason government and political influence have not been even more pervasive is that, at the same time the absolute and *per capita* level of government expenditures have been increasing, total national production has also been increasing. If the total national product should decline, there is no question that the percentage of the total controlled by government would increase at a more rapid rate. If this trend continues, the growth of government influence will give to government such a preponderance of authority that the chief characteristics of the free-market system will disappear.

The strength of the forces leading to further expansion of government expenditures is revealed if one surveys the recommendations of various professional groups concerned with the adequacy of the level of services and functions already performed by government. Convincing cases can be made for increased direct and transfer expenditures for public education, housing, health, old age assistance, defense, transportation, recreation and so on.¹⁰ Unless the productivity of the private

¹⁰ See estimates in J. Frederic Dewhurst and Associates, *America's Needs and Resources* (New York, 1947), *passim*.

economy increases over the years, the trend toward higher public expenditures will result in the government domination that was suggested above.

It is this point that has made the case for government compensatory spending so persuasive. The one thing that the private economy cannot tolerate is continued depression or stagnation. The productivity of the private economy must increase steadily if it is to survive. The danger is real as an even more rapid growth in public expenditures than yet experienced may be in prospect. This is certain if either widespread dissatisfaction with the private economy develops or large-scale defense appropriations continue to be necessary.

A second major argument for the use of government expenditure variation as a means of stabilizing the economy is that when there are unemployed resources the cost to society of the employment of idle factors by government is zero. Support of the private economy achieved in this fashion will temporarily shift the balance in favor of greater government control of production but this should be a temporary phenomenon if the activity is restricted to the period of depression.

V. Limitations of Expenditure Manipulation

The major issue is whether the government can vary its level of expenditures over the cycle without permanently increasing the proportion of the economic life of the nation under government control. It is this that private business fears, and not without reason. For example, counter-cyclical planning of public works has been suggested as the most effective means of supporting effective demand in a depression and at the same time making direct provision for unemployed workers. If it were possible for public works to be transferred from periods of prosperity to depression, the long-run level of public activity could be maintained constant. It is more likely, however, that the public will not permit the variation of public works expenditures in this fashion.¹¹ It is reasonable to suggest that, except for effects on employment and income, public works outlay should be greatest in

¹¹ Gerhard Colm's discussion of recent experience is revealing. He writes as follows: "The limits of an effective fiscal policy through manipulation of expenditures were demonstrated in August, 1946, when President Truman wanted to curtail expenditures as one of the measures for combatting inflationary pressure. He cut by two billion dollars a Federal budget that exceeded forty billion dollars. The rest of the budget was regarded as largely inflexible because it is determined by legislation or allocated for Government purposes that were believed to be nondeferrable. It proved difficult to enforce even this limited curtailment program in view of resistance against the postponement of certain public works. The experience showed not only that flexibility in the Federal budget is limited, but also that our legislative and administrative machinery is not yet fully equipped to use even this limited existing flexibility." Gerhard Colm, "Fiscal Policy" in *The New Economics*, Seymour E. Harris, editor (New York, 1948), p. 464.

periods of prosperity and least in periods of depression. This follows from the fact that expansion in real income and activity leads to more extensive use of public facilities and demand for entirely new facilities. Auto and truck mileage increases, recreation facilities are more frequently used, school enrollments increase and schooling is continued for a longer time, water and power consumption increases and postal demands grow in periods of prosperity. These needs can be met only if public investment is increased. It does not make sense to tell voters that they should postpone their demands for better facilities until the uncertain day when there will be a depression. If existing facilities are inadequate, and they usually are, it is difficult to criticize the voter who demands immediate correction of this deficiency.

The selection of the most appropriate types of public works also raises many issues not yet solved. As the amounts involved in any works program must be large if real benefits are to be achieved, the choice of the most appropriate works is a major consideration. Unfortunately, consideration of projects on the basis of the need for improvements may lead to conflict with the private economy. If public works conflict with private industry, the discouragement to private investment that will result may perpetuate the very evil that the government is trying to correct. Another dilemma is that the reversibility of public investments tends to be in inverse relationship to the need for the project. Thus, the most useful of all programs that might be suggested at the present time is the development of other river basins along the lines of the TVA. Another project with a high priority would be the expansion of public housing. In either case, the project or projects, once under way, would be difficult to stop and might well be continued until they competed directly with the private economy for materials and labor and were the cause of inflationary price movements. The extent of this danger can be minimized by careful control and planning but it is likely that the results would be adverse to the private economy.

It has been suggested that these objections could be met if a public works program were planned on the basis of *future* needs. Thus, roads could be built to take care of future traffic, schools could be built and partially utilized in anticipation of future growth, and so forth. When prosperity returned, the problems of slowing down the rate of expenditure or stopping some projects entirely would not be difficult, so it is argued.

A critical examination of this suggestion reveals that it sounds more plausible than it is. In the first place, emphasis on future needs would tend to direct resources and labor to the less important jobs left to be done. As long as there are deficiencies in essential government service

and the need for the development and protection of natural resources continues to be as great as it is today, there is no practical limit to the amounts that could profitably be spent on improvement in these areas. Under these circumstances, how can the construction of a highway that is not needed at the moment be justified when there are thousands of miles of dirt roads left in the country? How can schools larger than needed in the immediate future be constructed when there are thousands that are below standard that should be replaced? Can a new post office be justified if the local hospital is inadequate to care for all the sick? Can housing that would be used immediately be neglected to build a community center adequate for the next fifty years?

As long as the current level of public service falls as short as it does of the public needs there is little chance that this approach will prove acceptable. Additional complications arise if the inadequacy of economic forecasting is considered. Predictions would have to be made that would determine the pattern of expansion of the country for years to come. If these proved to be as inaccurate as is usually the case, the waste and distortion of the economy would be so great that it might discredit the entire program. This sort of guessing game would also be an invitation to the pressure groups and lobbyists to come and feed at the public trough.

Suggestions to vary public works outlays have not been restricted to the benefits to be derived from the aggregate effects of such programs. It is argued that selective works programs are effective and desirable as a means of aiding specific industries or areas that are depressed and require special attention.¹² Thus, the construction industry has proved to be more vulnerable than the average industry and should receive special support. Similar cases can be made for most heavy investment industries and areas where these industries are major employers. Although not aided by a public works program, agriculture is another case where special action has been recommended and put into effect as a part of a campaign to relieve areas of greatest need.

There is no question that a realistic view of the needs and political demands of the public requires that provision be made for special cases beyond the general provisions of a recovery program. This does not justify the claim, however, that recovery may best be promoted by selective expenditure programs. Programs of this type may establish dangerous precedents and invite irresponsible political action designed to gain temporary political advantage for narrow pressure groups. Rather than correcting basic maladjustments, a selective program may prolong adjustment to changing conditions, or to changing technology

¹² A. H. Hansen, *Fiscal Policy and Business Cycles* (New York, 1941), pp. 262-63.

required to give maximum efficiency in the satisfaction of wants and utilization of resources. There is also danger that support will be given to monopolies or semi-monopolistic industries at the very time they are losing their monopoly power. A strong case may be made for selective programs attempting to maintain a balance between investment and consumption. Anything more requires greater precision than has yet been gained in the definition of the criteria for eligibility. What is a distressed industry or area? If an area or industry is to be given special relief, by what process is the relief to be tapered off? What rate of return should be allowed a subsidized industry? These are but a few of the questions that arise if selective control is considered.

The greatest danger of selective relief programs is that they will weaken the effectiveness of the free-market system by preventing losses from exercising their logical influence on the transfer of resources, labor, and management from declining to expanding industries. On the other hand, there is no possibility that the free market can be left to operate without some tempering of the severity of its influences in special cases. The problem can be solved if provisions for easing the impact of temporary unemployment in individual cases are improved. This involves expansion and liberalization of the provisions of unemployment insurance and dismissal pay, and the creation of an effective system of national employment offices. In the event of a major depression it is suggested that primary reliance be placed upon less selective means of promoting recovery until job opportunities are once more available to displaced workers.

Finally, counter-cyclical variation in government works expenditures runs up against a whole host of difficulties of a purely political and administrative nature. Most of these are familiar to even the most superficial student, but the one that deserves the greatest attention is often neglected. This is the possible effect of works programs designed to stabilize the economy on the structure of local government. One of the prized features of the political system of the United States is the reliance on local initiative and responsibility to provide the primary wants of the people in the community. Until relatively recent years this was possible and done rather well. Since the 'twenties it has become increasingly apparent that the old local government units can not do the job. Financial strength and administrative power are lacking. The first result has been to greatly increase the role of state governments and the extent of federal aid. On the whole, this has been to the advantage of all groups but the loss of local responsibility and initiative is a high price to pay. There is also danger that the centralization of power in the federal government will result in a form of corruption that will make the exploits of the city machines seem mild in comparison. This

was the fear of Henry Simons who believed that the activities of pressure groups and lobbyists had already brought this result in the period of the New Deal.¹³ What is feared is that decisions made by the central government will not represent the true needs of the people, but will lead to the diversion of billions of dollars into worthless projects that are of little good to anyone but have the backing of the most powerful lobbies in the national capital. This problem would be aggravated by the increased emphasis upon federal works as a means of stabilization. Many devices have been suggested to get around this difficulty but until there has been a major reform or revision in the relations of federal, state and local governments and perhaps reform in the entire local and state governmental set-up, there is danger that rapid expansion in the use of federal powers would establish patterns that would cause a deterioration in local and state government for some years to come.¹⁴

VI. *Consumer Subsidies*

The difficulties mentioned above have led to the suggestion that a more appropriate means of supporting effective demand would be outright cash grants to the public in the event of any significant decline in effective demand.¹⁵ These grants would either replace unemployment insurance or supplement it but would also be made to employed workers as well. The basic consideration would be to pay out enough money to support effective demand at full employment levels. In a period of full employment or inflation, the process could be reversed and surplus cash receipts retained by the Treasury or used to reduce the debt in an anti-inflationary fashion.

Proposals of this type suffer from two defects. First, is the common problem of all stabilization plans—the problem of timing payments to meet the true needs of the situation. Second, is the possibility that the support of consumer demand would not be sufficient to prevent the continuation of a decline in investment activity in a free-market system. There is also the danger that the removal of the connection between eligibility for grants and personal contributions and obvious need would invite the abuse of the system and would tend to reduce incentives over the long run. It is strange, however, that this is generally considered a more radical proposal than the use of public works or make-

¹³ Henry C. Simons, *op. cit.*, pp. 13-14.

¹⁴ J. M. Clark suggests that increases in federal public works projects are not justified until stabilization of essential current services is provided for. J. M. Clark, *Economics of Planning Public Works* (Washington, 1935), p. 76.

¹⁵ K. E. Boulding, *The Economics of Peace* (New York, 1946), pp. 164-65. A. P. Lerner, "Functional Finance and the Federal Debt," *Social Research*, Vol. 10, No. 1 (Feb., 1943), pp. 38-51. John H. G. Pierson, *Full Employment* (New Haven, 1941).

work projects. In terms of its effect on the main features of the free-market system this approach is the least disturbing of all that are commonly considered to be at all practical. Consumer freedom of choice would be fully protected and private control of production would be retained.

VII. *Program Implementation*

Even if it is assumed that there is agreement as to the type and timing of variable expenditures, there still remains the problem of the execution of this policy within reasonable time limits. As the federal government is by far the most influential, a successful solution of the problem of implementation of policy at this level is essential if effective results are to be achieved. In the first place, inspection of the major items of the current and expected future budgets of the federal government reveals that noneconomic considerations or contractual commitments are responsible for the greatest part of the budget.¹⁶ However, noneconomic considerations do not remain stable and may change within a very short time, as has been seen recently in the rapid expansion of defense and foreign aid appropriations. Thus, the most careful planning of works appropriations or welfare assistance may have to be modified overnight due to a shift in some other item in the governmental budget. Prediction of trends in the political sphere is even more difficult than the economic. One may conclude, therefore, that there must be a very effective and sensitive control mechanism designed to adjust the various elements in the federal budget to meet unforeseen developments as they arise. This control agency or group of agencies must be able to operate quickly and without lengthy debate.

In spite of the progress that has been made in recent years, the federal governmental system that has responsibility for execution of policy is not designed to be used in this fashion. The basic principle of division of powers that was established by the Constitution has made coordination of the executive, legislative and judicial branches of government necessary for effective management of complex economic plans or controls exceedingly difficult or impossible. Within the executive branch, the situation is almost as bad. At least twenty-one departments or agencies are independently charged with the formulation of policy on expenditures.¹⁷ Within the Congress the evolution that has led to consideration of appropriation bills by separate committees has proved difficult to coordinate and more difficult to modify. The practice of passing authorizations for public projects well in advance of appropriations makes the effective use of fiscal policy even more difficult. The

¹⁶ See notes 6 and 11 above.

¹⁷ C. C. Abbott, *op. cit.*, pp. 150-51.

recent reorganization of the Congressional committee structure has been generally discounted on the basis of the record since its enactment. The most encouraging recent developments are the expansion of the role of the Bureau of the Budget and the creation of the Council of Economic Advisers to the President. Both agencies can do much to make sense out of the existing chaos but as their authority is derived entirely from the executive, either a weak President or a recalcitrant Congress can prevent the best program from being executed.

Effective programming of federal financial policy may be most difficult at the very time it is most necessary. This follows from the fact that the chances of having a President of one political party and a legislative majority of another party are greatest in periods of rapid change or periods of economic dislocation. It is obvious that from a practical viewpoint some extensive reforms are necessary.

VIII. *Need for a New Approach*

Preoccupation with short-run solutions to the problem of stabilization and the use of an aggregate approach has led to the neglect of the long-range implications and obvious limitations of expenditure variation over the business cycle. On the other hand, the most severe critics of government intervention have ignored the public demand for higher standards of government service, the strength of noneconomic forces increasing expenditures such as war and defense, and the necessity of government intervention on a positive basis to prevent waste and suffering in the event of either inflation or depression.

The weakness of the noninterventionist's approach is obvious, and the trend toward increased government outlays continues in spite of their efforts to stop it. Any objective consideration of the level of government service and standards of public facilities indicates the need for increased expenditures and confirms the judgment that the demands of the electorate are not going to diminish. War, preparation for war and defense expenditures, along with the strength of the American dream of equal opportunity for all without regard to birth, assure the continuation of the trend. The extreme advocates of economy can achieve their objectives only at the price of inadequate defense or the destruction of the ideal of progress toward equality of opportunity for all. Neither price is one that a true democracy can pay.

The danger is that emphasis on the goal of stability and immediate action to offset adverse effects of a depression will result in so rapid a growth and concentration of political power that the free-market system will be seriously damaged. This danger arises because an increase in government expenditures invites the exercise of political influence as a means of achieving economic advantage. Once started, the trend

is likely to continue until the whole process of production and distribution is dominated by politics rather than the play of the forces in the market.

It is one thing to advocate the use of counter-cyclical government expenditures when the normal level of government expenditures is a small fraction of the total national income. It is another matter when the level reaches twenty-five per cent or more and there is no sign of a downward trend. No policy can be adequately assessed without consideration of the setting in which it is to operate. Certainly what was true in 1933 no longer holds. It is essential, therefore, that those interested in devising a stabilization policy that will be effective in the current situation and still remain compatible with the continuance of a free economy must pay attention to the changes that have taken place since the advent of the New Deal, particularly the financial repercussions of World War II.

In spite of the forebodings suggested above, or perhaps because of them, it is clear that there is still need for an effective government stabilization policy free of the adverse effects outlined above or the failure of the free-market system will lead to such reaction that it will lose the confidence of the electorate and the majority of thoughtful students of political economy. It is therefore necessary for those who are critical of some of the suggestions made in the past to offer reasonable substitutes.

In the paragraphs that follow, two sets of suggestions are made as a basis for a positive program in the current situation. The short-run suggestions are offered because there is need for immediate action to stop the current inflation and to cope with the depression that is likely to be upon us before the longer-range suggestions have been worked out.

The long-run suggestions are designed to focus attention on considerations relevant to the future health of the free-market system and the preservation of a democratic political system. Specific proposals made are not all original and can without doubt be improved upon. In many cases, the passage of time will indicate the advisability of shifting some of the objectives as well as the means sought to achieve them. There is no question, however, that an increasing amount of attention must be paid to the long-range implications of alternate policies if a radical change in our system is to be prevented.

IX. Short-Run Policy

The main objective of a short-run program should be the halting of the current inflation and the minimization of the adverse effects of the anticipated postwar depression. Another period of depression as long and as severe as the depression of the 1930's would be disastrous. It is

assumed that the need for action will arise before many of the longer-range reforms suggested below can be put into effect.

The first line of defense should be the built-in-flexibility in government budgets that arises from fluctuating revenues and maintenance of reasonably stable governmental expenditures over the cycle. This requires the continuance of a progressive tax system if constant rates are to produce a net government cash surplus to help curb inflation and a net deficit requiring new money or credit issue to help support effective demand in the event of a depression. Real progress along these lines is possible if federal aid is given to the states and local governments to support their normal services without reduction in depression. At the outset of a depression, this approach would seem to be preferable to a federal works program. As the federal contributions to states and local governments would be financed by the expansion of money supply, the income effects would be the same as if the federal government were spending the money directly. The use of state and local governments to administer the funds would prevent concentration of political power. Ideally grants or loans should be made on the basis of a formula measuring need, resources, past expenditure, and business conditions.

The advantage of such a system would be the minimization of political influence and the assurance that areas in greatest distress would receive assistance above the average. This suggestion is one that could be adopted in a short time. No major reorganization of government would be required and no radical change in the activities of government would be involved. Private investors would not find that it threatened traditional areas of private investment and the selection of projects could follow the patterns of the past. Some would be good and others wasteful but the general level would probably be better than would result from the log-rolling that is involved in the selection of projects on a national scale in Congress.

The major difficulty would be the political opposition to the granting of federal funds to the states and localities without detailed control and without opportunity to assure that benefits went to the majority party. This is true, however, of most any reform that tries to prevent the abuse of political power and can be overcome if there is sufficient demand for it by leaders of public opinion.

The problem of reduction of federal grants in the event of boom or continued prosperity is also substantial. State and local governments are no more anxious to tax their residents than the federal government and in the event of a change in status that indicated a reduction in funds from federal sources and either a reduction in state and local expenditures or an increase in the aggregate revenue collections by these gov-

ernmental jurisdictions, political opposition might prevent the sort of balance over the cycle that is indicated. This suggestion also assumes that the federal government would not tend to expand levels of expenditure in the event of a boom and contract in the event of a depression. If this happened, there would be need for an offsetting variation in revenues that might not be achieved by the normal fluctuations resulting from changes in national income. Although one must conclude that there is no automatic formula that will assure the results desired, this seems to be the best line of attack at the moment. Certainly nothing will be accomplished unless there is a greater degree of discipline and responsibility on the part of government officials and legislatures than has been the custom in the past.

The current problem of inflation is so tied to the mistakes of the past, the expansion in debt and liquid assets during the war, the shortage of capital and durable consumers goods, and the international commitments of the country, that the immediate situation seems to indicate a secondary role for fiscal policy as usually conceived. Certainly there is no reason to fail to maintain a revenue surplus and to make an effort to reduce the surplus of funds seeking to purchase scarce factors but in this situation a surplus on government account may be offset by an increase in private credit, an increase in velocity of existing money or monetization of the government debt, or some combination of the three. If further expansion of credit and monetization of debt is to be prevented, debt management and the central bank policy of the Treasury and the Federal Reserve System must be made more effective without delay. The failure to follow such a policy is, in large measure, the result of the fear that any effective action would precipitate a depression. Certainly the record of the past supports this fear. The record also suggests, however, that there is danger that failure to restrict money and credit expansion will lead to continued inflation and an even more serious aftermath.

Other short-run reforms are necessary in the tax systems of all levels of government if the effect of taxation is not to distort the normal market decisions of the business community and the consumer. First on the agenda is the reform of the definition of taxable income. Extension of provisions for loss realization and averaging would do much to prevent the possibility of the income tax adversely affecting investment. Improvements in equity that would result would also help make the tax more tolerable to the average citizen and the punitive features less marked. Full taxation of capital gains and allowance for losses with some averaging or step scale to allow for assets held over one year, is recommended as a means of both increasing the equity of the system and adding to the counter cyclical variability of the tax system. Closing the

tax exemption loophole would also do much to prevent the magnification of tax considerations in investment decisions. After these problems had been met, it might then be possible to tackle the problem of the double taxation of corporate income or at least reduce the level of the corporate tax.

At the state and local level there is equally great need for reform. Most states have a hodgepodge of taxes and the dependence of the local governments on the property tax has led to a continued weakening of their financial position and an increase in their dependence on state and federal governments for support. As a temporary expedient it is suggested that more attention be given to the possibility of state administered but locally assessed taxes.

Finally, the basis for meeting the expected crisis in employment and human welfare that seems least destructive is to expand the provisions for unemployment insurance in the event of need. The effectiveness of such grants can be improved greatly if the minimum levels of the poorer states are raised and the duration of the benefits are increased. The advantage of insurance is that the consumer still chooses the way in which he will spend his money and a minimum of political influence is involved.

It is still possible that the short-run suggestions made above will not be adequate to do the job. If this should be the case, the necessity of federal intervention on a larger scale would be clear and the decision as to the means to be used could best be made at that time. Both a work relief and a public works program are certainly in order in this event and there is nothing to be said against using both at the same time. If this is done, the standards for the larger public works projects might be maintained at a higher level and the prospect of establishing patterns of danger for the future minimized. Certainly the general reaction against many of the work relief activities in the 1930's served the useful purpose of hastening the reduction in government projects. The main point, however, is that the use of work relief or public works is not to be recommended at the outset and cannot be justified until there has been a full exploitation of other remedies.

The author is frankly not too optimistic over the possibility of achieving substantial stability in the short run. There seems to be no formula that will achieve this objective without a much greater concentration of power in the hands of the federal government than is compatible with the preservation of an economy that resembles the one we have enjoyed in the past. It is possible, however, that the effects of fluctuations can be tempered so that there will be time to institute more fundamental reforms correcting the basic reasons for fluctuations.

X. *Long-Run Policy*

Two long-run objectives are set forth as the most important in the current situation. First is the correction of the basic weaknesses of the system that cause or aggravate instability. Second, is the revision of governmental structure and procedure so that the performance of governmental functions can be efficient, decentralized and effectively controlled in a fashion compatible with the maintenance of stability and a free economy.

A detailed discussion of the first objective lies beyond the scope of this paper but there is general agreement that substantial progress in this direction depends on reform of the monetary and credit system, and the freeing of markets from the dominance of monopolistic restraints. Pursuit of these reforms raises the question of the extent of government *vs.* private control of credit and banking facilities, the possibility of achieving international monetary and trade reform in face of intense political rivalry, the question of labor-management relations, patent policy, wage-price policy, corporation and public utility regulation, and so on. The issue of monopoly is particularly important because the concentration of economic power in the hands of a few large corporations may well lead to the dominance of government by business even under the most favorable conditions with regard to stability. There is little to choose between this result and the dominance of business by government, but on the whole it would seem to be more distasteful.

The chances of achieving fundamental economic reforms will be improved if a long-range policy of governmental reform is instituted. A weak and divided government is not going to be successful in economic reform. Hope for rapid progress in this direction would seem to be greatly enhanced if much greater attention were directed to these issues, alternate programs discussed and a concerted effort to capture the support of leaders of public opinion were made. Certainly continuance of a makeshift system of government can only lead to difficulties as its significance increases.

In view of the position of the federal government at the present time attention must be directed first to the improvement in the operation of federal financial agencies and the coordination of the legislative and executive branches of government. A reasonable fiscal policy and expenditure control cannot be achieved by the present haphazard structure with its divided authority and lack of professional standards. If financial health is to be preserved and rapid adjustment to changing circumstances made possible, there is need for greater coordination of normal budgetary controls and monetary, credit, and banking controls than has been achieved to date. This requires the creation of a new agency

with responsibility for this work and the subordination of the Federal Reserve and Treasury as they exist today. The Bureau of the Budget has been suggested as the agency to do this job but it is not endowed with sufficient power to be effective. The ideal would be to create an authority given wide discretionary power but responsible to the Congress for the maintenance of certain basic conditions, such as the stability of price level. Preferably this agency would *not* be charged with the administration or preparation of detailed plans or programs needed in the event of depression. Its services would be used but if in spite of its effort there should be a need for more drastic measures, it would be better to have the authority for such a program given to a temporary agency which would see its job as a short-run affair. The reason for this suggestion is a desire to avoid pressure on the permanent agency to compromise its long-range program as the result of temporary changes in economic conditions.

Progress along these lines or other alternate programs that would hold out hope of improved fiscal policy is dependent upon the radical revision of the narrow view of the typical congressman. The inability of the average legislator to take a long view is largely the result of pressures brought to bear on him by his constituents and their ignorance of general economic policy but is actively supported by the committee system and the lack of effective party leadership on issues of broad economic policy, except for short periods. Detailed analysis of these issues would require another paper or a sizeable monograph but the immediate need for correction of these deficiencies must be established and greater interest taken by those who are concerned with economic policy as well as those concerned with political affairs.

The obvious need for better economic intelligence work on the part of the government must not be neglected. The improvement in this regard has been substantial in recent years but there is still much yet to be done. Some investment in the preparation of detailed plans of alternate programs to meet hypothetical situations would also prove to be desirable. A running inventory of the state of the nation's economy should be maintained at all times. The possibilities of prediction of major economic trends should be fully explored. An investment in a determined effort to predict economic trends by statistical methods might not pay off but it is only the federal government that can undertake such a program, and the rewards that would accrue as a result of even limited success would fully justify the gamble.

In the area of state and local governments, even greater need of reform of governmental structure exists. The existing pattern of political boundaries, established by accident or to meet conditions no longer

present, prevents the efficient discharge of governmental services in many areas and has left the financial structure of state and local government in an intolerable condition. The result has been bad government and government finance at the local and state level, the growth of reliance on the federal government for more and more assistance, and the direct assumption of responsibility by the federal government for jobs that should be done at other levels. As a consequence, little possibility of a coordinated attack on the major problems of the country by all governmental levels exists today.

Perhaps the best remedy would be the complete scrapping of all state and local governmental jurisdictions as presently constituted and the reorganization of governmental units of a size and covering an area that represents an efficient administrative unit. The obvious impossibility of achieving any reform of such a drastic nature suggests that new agencies be established to coordinate or assume many of the functions of the local governments. Political and social loyalties could remain in the original jurisdiction but the main job of government at the local level could be transferred to more effective units. This suggestion is subject to the criticism that even greater confusion would result from the multiplication of governmental organizations but the success of such a device in the case of the TVA and the Port of New York Authority gives hope that substantial progress can be achieved. Failure to act will have repercussions that are certain to be more troublesome as time goes on.

Finally, there is need for a revision of the objectives of the average citizen and the average business leader. The exclusive concentration of the average man on his business, locality and personal economic affairs must be changed if many of the reforms suggested can be put into operation. How this may be done is the question. One of the best means is leadership on the part of governmental officials, legislators, and businessmen. The first step should be an all-out effort to improve the calibre of men in high office and their education in the major issues of the day. Propaganda cannot do the job but constant reiteration of the major issues yet to be faced will help raise the level of public interest and encourage better thought and action.

The advances in international trade policy in recent years and the widespread support of a more realistic international policy by large segments of the business community are signs that progress can be made. An agency that holds out hope for the future is the Committee for Economic Development which has sought to promote understanding and to develop a consensus rather than the promotion of a narrow business view. Education in economic affairs cannot start too early nor

FEDERAL RESERVE POLICY AND THE FEDERAL DEBT*

By LESTER V. CHANDLER

It is common knowledge that monetary management in this country has for several years been strongly influenced, if not dominated, by considerations related to management of the federal debt. With this debt amounting to more than \$250 billion and comprising about 60 per cent of all outstanding debt in the country, the foremost objective of our monetary policy has come to be "the maintenance of an orderly market in government securities" and the prevention, or at least a limitation, of the rise of yields on these securities, especially on the long-term issues. Though the rise of this new objective has been the subject of widespread discussion, the writer believes that its full implications are not generally appreciated. The purpose of this article, therefore, is to trace the rise of this policy objective and to raise some questions concerning its consequences.

The Evolution of the Policy before Pearl Harbor

Prior to 1937 Federal Reserve purchases and sales of government securities were primarily for the purpose of influencing the volume of member bank reserves and of member bank borrowings at the Reserve Banks. These were, of course, designed to affect interest rates, including yields on governments, but the effects were expected to result mainly from changes in the ability and willingness of banks to lend and purchase securities. But in 1937, apparently for the first time as a major policy objective, the Federal Reserve bought long-term governments for the purpose of limiting their price decline. After reaching high levels in late 1936, the prices of long-term governments and high-grade corporate bonds began to fall early in 1937. This decline did not extend to Treasury bills and notes. The Reserve System thereupon initiated what it called its "flexible portfolio policy," purchasing more than \$200 million of the longer-term bonds and reducing its holdings of the shorter-term notes and bills by about \$150 millions. The decline of government bond prices was stopped and reversed.¹ By such operations the System influenced directly—not merely through its effects on bank

*This material will become part of a broader study of the process of inflation in the United States since 1939, a study which the writer could not have undertaken without generous financial assistance from the Merrill Foundation For Advancement of Financial Knowledge, Inc. The author is professor of economics at Amherst College.

¹ Board of Governors, *Annual Report*, 1937, pp. 5-7.

reserves—the yields on both long- and short-term government securities and indirectly the yields on others.

The avowed purpose of this policy was (1) to exert an influence toward orderly conditions in the money market, and (2) to facilitate the orderly adjustment of member banks to the increased reserve requirements effective May 1, 1937.² In justifying its policy the Board said,

In recent years the bond market has become a much more important segment of the open money market, and banks, particularly money-market banks, to an increasing extent use their bond portfolios as a means of adjusting their cash position to meet demands made upon them. At times when the demands increase they tend to reduce their bond portfolios and at times when surplus funds are large they are likely to expand them. Since prices of long-term bonds are subject to wider fluctuations than those of short-term obligations, the increased importance of bonds as a medium of investment for idle bank funds makes the maintenance of stable conditions in the bond market an important concern of banking administration.³

The System continued its flexible portfolio policy from early 1937 until after Pearl Harbor, though no extensive operations were necessary in 1938 and early 1939.⁴ Its next major operation in governments occurred in September, 1939, when the outbreak of war in Europe led to a sharp decline of bond prices. To stop this decline the System did two things: (1) It announced that all the Reserve Banks stood ready to lend on government securities at par value to non-member as well as member banks, the discount rate to be the one applicable to such loans to member banks. The rate at New York and Boston was 1 per cent, and five other Reserve Banks instituted a preferential 1 per cent rate on loans secured by governments. (2) It purchased nearly \$500 million of bonds in the open market. The Board justified these stabilizing purchases on two principal grounds: (1) To "exert a steadying influence on the capital market, which is an essential part of the country's economic machinery, and disorganization in which would be a serious obstacle to the progress of economic-recovery," and (2) to safeguard the large United States government portfolio of the member banks from "unnecessarily wide and violent fluctuations in price."⁵

At only one other time between late 1939 and Pearl Harbor did the Federal Reserve find it necessary to purchase governments to cushion

² *Ibid.*, p. 6.

³ *Ibid.*, p. 7.

⁴ For evidence that the Federal Open Market Committee continued to be concerned with maintaining an orderly market in governments, see Board of Governors, *Annual Report*, 1938, pp. 77-79. In the early part of 1939 the System allowed its holdings of Treasury bills to decline markedly because they could be replaced only on a virtually no-yield basis. By the end of the year it held no bills.

⁵ Board of Governors, *Annual Report*, 1939, p. 5.

a decline of their prices. This was in the spring of 1940, following the invasion of Norway and Denmark and later the Low Countries, when bond prices began to decline and the Reserve System added somewhat to its holdings.⁶ During the rest of 1940 the System decreased its holdings of long-term governments by about \$300 million, thereby retarding the rise of bond prices that occurred as outside demand recovered strongly, partly because of large additions to bank reserves resulting from voluminous gold inflows. The Reserve Banks maintained their holdings of governments practically stable during 1941 until the price break following Pearl Harbor, at which time they bought \$60 million of bonds and \$10 million of bills.

In summary, by the time the United States entered World War II the "maintenance of an orderly market for government securities" had already become an important consideration in Federal Reserve policy. The Reserve System was buying and selling governments to protect member banks against "unnecessarily wide and violent fluctuations" in the prices of the government securities that they held; to exert an indirect influence on other interest rates in the market; and to remove obstacles to economic recovery. It had not yet, however, reached the point of "pegging" government prices at stated levels and standing ready to buy all these securities offered to it at the pegged prices. In other words, it was maintaining an "orderly market for governments" in the sense of preventing "disorderly" changes in their prices and yields, but it was not yet maintaining a rigid yield pattern.

Federal Reserve Policy During the War

Upon our entrance into the war, the maintenance of an "orderly market for government securities" at low interest rates became not merely an important objective, but the clearly dominant objective, of Federal Reserve Policy. The Board of Governors assured the public on December 8, 1941 that the Federal Reserve could and would see that the Treasury was supplied with all the money that it needed for war finance.

The existing supply of funds and of bank reserves is fully adequate to meet all present and prospective needs of the Government and of private activity. The Federal Reserve System has powers to add to these resources to whatever extent may be required in the future.

The System is prepared to use its powers to assure that an ample supply of funds is available at all times for financing the war effort and to exert its influence toward maintaining conditions in the United States Government security market that are satisfactory from the standpoint of the Government's requirements.⁷

⁶ Board of Governors, *Annual Report*, 1940, pp. 3-4.

⁷ Board of Governors, *Annual Report*, 1941, p. 1.

This promise was amply fulfilled. The war effort may at times have been impeded by other shortages, but it never suffered from a lack of money. Thanks to a highly liberal Federal Reserve policy, the Treasury could get from the Reserve Banks or from commercial banks any funds that it needed beyond those secured by taxation and by borrowing from non-bank sources. Of the \$230 billion increase of the federal debt from June, 1940 to December, 1945, nearly \$75 billion was taken by commercial banks and \$22 billion by the Reserve Banks.

Moreover, a generous Federal Reserve policy enabled the Treasury to borrow these tremendous sums of money at low and slightly declining rates of interest. At the time of our entrance into the war the excess reserves of member banks amounted to nearly \$7 billion, and during the preceding five years they had only rarely been less than \$2 billion. Under these conditions and with a shrunken demand for investable funds, the whole structure of interest rates had fallen to low levels, and rates on safe short-term paper were low indeed. This situation was continued throughout the war period. In March, 1942 the Federal Open Market Committee agreed with the Treasury that the general market for governments "should be maintained on about the then existing curve of rates (but that this did not mean special support for issues which might be out of line or that any issue must be held at par or at any other fixed price)."⁸ The pattern of pegged rates above which market yields were not permitted to rise until well after the end of the war was $\frac{3}{8}$ of 1 per cent on 90-day Treasury bills, $\frac{7}{8}$ of 1 per cent on 12-month certificates of indebtedness, and higher rates on longer-term issues ranging up to $2\frac{1}{2}$ per cent on the longest-term taxable bonds.

The Federal Reserve helped maintain this pattern of low yields on governments in two principal ways.⁹ First, but less important, was the maintenance of low discount rates. The Reserve Banks stood ready to make advances at a discount rate of 1 per cent to both member and non-member banks up to the full par value of any government security offered as collateral, and they established a preferential rate of $\frac{1}{2}$ of 1 per cent on advances to member banks secured by governments maturing or callable within a year. Since the member banks owned an ample volume of the shorter-maturity issues, only the $\frac{1}{2}$ of 1 per cent rate was significant in most cases. This willingness of the Federal Reserve

⁸ Board of Governors, *Annual Report*, 1942, p. 104. See also pp. 12 and 106.

⁹ We need not deal at length with the lowering of reserve requirements of central reserve city banks from 26 to 20 per cent in 1942, the exemption of War Loan Deposit Accounts from member bank reserve requirements and FDIC assessments beginning in 1943, and the 1942 legislation authorizing the Federal Reserve to purchase securities directly from the Treasury but limiting such holdings at any one time to \$5 billion,

to lend at low interest rates was reassuring to some banks, but few of them found it necessary or desirable to take advantage of the opportunity. Banks needing funds could secure them more cheaply by selling low-yield Treasury bills to the Reserve Banks. Federal Reserve discount rates had already become largely meaningless.

The much more important method of preventing yields on government securities from rising above the pattern agreed upon with the Treasury was Federal Reserve open-market operations. The System relinquished its initiative and its accuracy of control over the volume of governments that it held in order to prevent yields from rising above the established pattern. The loss of initiative by the Federal Reserve was most obvious in the case of Treasury bills. On April 30, 1942, the Federal Open Market Committee ordered the Reserve Banks to buy all Treasury bills offered to them at $\frac{3}{8}$ of 1 per cent yield. And in October of that year it ordered the Reserve Banks to grant repurchase options to sellers of bills, permitting them to repurchase at $\frac{3}{8}$ of 1 per cent yield the bills that they had sold to the Reserve Banks. In this way the yield on Treasury bills was held constant until mid-1947. Moreover, Treasury bills were made as safe and liquid as money itself so the banks had no reason to hold large excess reserves. In a similar way, the Federal Reserve stood ready to buy all 12-month certificates of indebtedness offered to it at its $\frac{7}{8}$ of 1 per cent posted buying rate. Though no rates on longer-term issues were formally posted and publicized, the Federal Reserve nevertheless purchased these issues in whatever quantities were necessary to prevent their yields from rising above the established pattern, and it sometimes sold them as their yields fell below the pattern levels. Thus the Federal Reserve lost almost completely its initiative in open-market operations; its holdings of governments were determined by the Treasury as issuer of the securities and by other institutions and persons as buyers and sellers of them. It had to monetize all the outstanding governments that others were not willing to buy and hold at the established pattern of rates.¹⁰

As mentioned earlier, the pattern of yields on governments agreed upon by the Federal Reserve and the Treasury reflected, in general,

¹⁰ The London *Economist* (August 4, 1945), pp. 161-62, has argued that the loss of initiative by central banks originated not during the war but during the Great Depression when central banks initiated easy-money policies. They could assure the continuance of cheap money only by standing ready to supply all the money that the public elected to hold at low interest rates. This is in a sense true, but the cheap-money policy of the depression period was initiated to encourage general business recovery and could presumably be reversed if spendings approached a dangerously high level. We shall see later that an easy-money policy aimed primarily at holding down interest costs to the Treasury and protecting bondholders against loss in terms of money may lack this element of reversibility.

the pattern prevailing in the market in the early part of 1942. The principal exception related to 90-day Treasury bills, whose yield averaged less than 0.30 per cent in April, 1942 and which were pegged at the higher level of 0.375 per cent at the end of that month. It developed later that the short-term Treasury bills with their $\frac{3}{8}$ of 1 per cent rate and even the 12-month certificates with their $\frac{7}{8}$ of 1 per cent rate were less attractive to investors than the longer-term securities with yields up to $2\frac{1}{2}$ per cent. This trend became clear only after the end of 1942. During the first year of our participation in the war, Reserve Bank holdings of governments rose about \$3.7 billion, the increase being about equally distributed between the shorter-term bills and certificates on the one hand and the longer-term notes and bonds on the other. But during the remainder of the war and for some time thereafter, offerings to the Federal Reserve were composed almost entirely of bills and certificates. In fact, while its holdings of bills and certificates rose from \$1.9 billion at the end of 1942 to \$22.4 billion at the end of 1946, the Federal Reserve was able, owing to the strong outside demand for them, to reduce its holdings of the longer-term notes and bonds from \$4.1 billion to \$1.4 billion. And even so, the longer-term issues rose to a premium, the longest maturities reaching a peak premium of about 7 per cent and their yield declining to about 2.1 per cent in early 1946.

Though other factors contributed, the principal reason for this shift of investors' preferences toward the longer-term issues was undoubtedly the announced policy of the Treasury of not raising the interest rates to be carried by successive new issues and the Federal Reserve policy of preventing the prices of governments from falling below the pegged levels. In such a situation the conventional distinction between short and long maturities lost much of its meaning. So long as the Federal Reserve continued to support the prices of the longer-term issues, every one of them was perfectly liquid at the pegged price, as much so as the shortest-maturity Treasury bill. An investor could rationally prefer a shorter-term government with a low yield over a longer-term government with a higher yield only to the extent (1) that the longer-term issue was selling at a premium over the Federal Reserve support price and there was a risk that its price would decline, or (2) that the Federal Reserve would lower its support prices. In view of the fact that both official pronouncements and the problems of debt management strongly indicated that yields on the longer-term governments would be prevented from rising significantly not only during the war but also for an indefinite period thereafter, it is small wonder that the Federal Reserve as residual buyer came to hold a

large proportion of the shorter-term low-yield issues, thereby adding to bank reserves, while other investors bid down the yields on the longer-term issues.

*The Federal Reserve and Government Security Prices
Since the End of the War*

Remembering the history of its policy before World War II, and especially before 1937, one might have expected the Federal Reserve to abandon its easy-money policy and to quit supporting the prices of government securities on a low-yield basis as the Treasury ceased to be a net borrower and began to reduce its debt in 1946 and as inflation gained momentum. But no significant change of policy occurred until mid-1947.¹¹ Until this time the Federal Reserve continued virtually without change the wartime pattern of its support prices, though its officials repeatedly warned Congress that without additional powers they could not simultaneously continue to support government security prices and combat inflation effectively. The first departure from the pattern of yields maintained during the war came in July, 1947 when the Federal Open Market Committee eliminated the $\frac{3}{8}$ of 1 per cent posted rate on Treasury bills and announced that the yield on bills would thereafter be expected to find its proper position in the market relative to the rate on certificates, which continued to be pegged at $\frac{7}{8}$ of 1 per cent. The Committee emphasized, however, that the System would continue to purchase and hold bills to the extent necessary to maintain an orderly market.¹² The second departure from the wartime pattern came in August, 1947 when the Federal Open Market Committee discontinued its $\frac{7}{8}$ of 1 per cent buying rate on certificates and embarked on a policy of preventing yields from rising above the Treasury issuing rate on new certificates. The Treasury thereafter gradually raised the rate on newly issued certificates to 1- $\frac{1}{8}$ per cent. This permitted the yield on Treasury bills to move up to about 1 per cent. These levels prevailed until the late summer of 1948.

The third departure from the wartime pattern occurred in December, 1947 when the Federal Reserve lowered somewhat its support prices of longer-term governments. As already noted, the prices of these longer-term securities were considerably above par in 1946 and early 1947.

¹¹ It is true that the Federal Reserve in the spring of 1946 eliminated the right of non-member banks to borrow on government securities at the 1 per cent rate; that about the same time it eliminated the preferential rate of $\frac{1}{2}$ of 1 per cent on advances secured by governments maturing within a year; and that in the summer of 1946 it raised acceptance buying rates from $\frac{1}{2}$ of 1 per cent to 1 per cent. But for reasons that will be indicated later these actions were relatively ineffective.

¹² Board of Governors, *Annual Report*, 1947, p. 93.

In April, 1947 the average premium on taxable bonds with 15 or more years to maturity was about 4.6 per cent and the yield had declined to 2.19 per cent. Believing that these yields were too low, the Treasury sold between April and the end of October about \$1.8 billion of bonds out of its own investment accounts, and in October offered for sale a new issue of nonmarketable 2- $\frac{1}{2}$ per cent bonds.¹³ These sales, coupled with the rise of short-term rates, large flotations of corporate securities, and a general rise of the private demand for loan funds, caused the prices of long-term governments to fall and yields on the longest-term issues to rise to 2.37 per cent in November. The decline was apparently considered too rapid, for the Federal Reserve stepped in and increased its holdings of bonds by about \$2 billion during November and up to December 24. Then, the day before Christmas, the Federal Open Market Committee lowered its support prices for the longer-term issues. No government security was allowed to fall below par, however, and the Federal Reserve purchased vigorously to support the new pattern of prices.¹⁴

The fourth departure from the older yield pattern came in August, 1948 when the Secretary of the Treasury announced that on October 1 the rate on new certificates would be raised from 1- $\frac{1}{8}$ to 1- $\frac{1}{4}$ per cent.

Several aspects of these Federal Reserve and Treasury actions in 1947 and 1948 should be noted. (1) The structure of yields on governments was permitted to rise somewhat, the yields on short-term issues rising more than those on longer-terms. Between June, 1947 and October, 1948 the yield on bills rose from 0.375 to about 1.1 per cent, the yield on certificates from 0.875 to 1.25 per cent, and the yield on the longest-term bonds from 2.2 to 2.48 per cent. Yields on other comparable types of debt moved in a roughly parallel manner. (2) These actions indicate a shift of stabilizing operations away from short-term rates and toward long-term rates. From early 1942 until July, 1947, the Federal Reserve pegged the bill rate at the low level of 0.375 per cent

¹³ Federal Reserve Bank of Boston, *Monthly Review*, January, 1948, p. 7.

¹⁴ The Federal Open Market Committee's decision to take such action was arrived at in its meeting on December 9, 1947. Action was to be deferred until after the Treasury's January refunding operations had been completed unless market selling increased substantially. "It was understood that . . . the executive committee would continue the existing prices at which Government securities were being supported until after the Treasury January refunding had been completed, at which time prices of bonds should be permitted to decline rapidly, if the market did not support itself, to a level not more than 100- $\frac{1}{2}$ and not less than par on the longest restricted 2- $\frac{1}{2}$ per cent issue and to not less than par on 1- $\frac{1}{8}$ per cent one-year certificates. It was also understood that if, before the completion of the January refunding, market selling should increase substantially, the executive committee would be authorized to permit prices to decline to the level stated above as rapidly as was consistent with the maintenance of orderly market conditions." Board of Governors, *Annual Report*, 1947, p. 97.

with the result that the yields on long-term governments tended to be depressed below their 1942 levels. But the 1947-1948 actions show a tendency toward concentrating attention on preventing the longest-term rate from rising above 2- $\frac{1}{2}$ per cent while allowing shorter-term rates to rise relative to it. (3) These actions indicate some willingness of the Federal Reserve and the Treasury to reintroduce a degree of upward flexibility in interest rates. But the implications of these actions for the future must not be exaggerated. In the first place, they do not indicate that the Federal Reserve has abandoned its objective of "maintaining an orderly market for government securities" at low-yield levels. Both by its pronouncements and by its continued security purchases in the face of inflation, the Federal Reserve has indicated that the maintenance of government security prices is still a dominant policy objective. And in the second place, the fact that the Federal Reserve has allowed some rise of interest rates does not necessarily mean that it will permit further significant increases. This point will be amplified in later paragraphs.

Federal Reserve Support of Government Security Prices in the Future

Will the Federal Reserve in the foreseeable future abandon the support of government security prices and the maintenance of low yields as the dominant objective of its open-market operations in order to be free to combat inflation vigorously? All the available evidence indicates that this is highly unlikely with respect to the long-term governments, though future policy with regard to short-term issues is more uncertain. Several officials, including the chairman of the Board of Governors, the former chairman, and the president of the Federal Reserve Bank of New York, have stated emphatically their determination to prevent the long-term rate from rising above 2- $\frac{1}{2}$ per cent.

Typical of their statements is that of Marriner Eccles, former chairman, in December, 1947:

The one thing you cannot do is to have confidence shaken in that 2- $\frac{1}{2}$ percent rate. If you let that go below par, there is always a question, where does it go? Because people remember, a great many of them, what happened after the last war when they let those securities go below par.¹⁵

¹⁵ *Hearings Before the Joint Committee on the Economic Report*, December 10, 1947, p. 620. See also Eccles' statement in *Hearings Before the Joint Committee on the Economic Report*, April 13, 1948, p. 16. Chairman McCabe takes a similar position: "... I have a very strong conviction that it is vitally necessary to support the 2- $\frac{1}{2}$ per cent bonds. ... I would not say it is our policy forever. I say for the foreseeable future." *Hearings Before the House Banking and Currency Committee*, August 2, 1948, p. 101. For a concurring statement by President Sproul of the Federal Reserve Bank of New York, see *Hearings Before the Joint Committee on the Economic Report*, May 12, 1948, pp.

Though the Federal Reserve and the Treasury appear determined to prevent yields on the longest-term governments from rising above $2\frac{1}{2}$ per cent in the "foreseeable future," they appear less reluctant to allow the yields on short-term issues to rise above the levels prevailing in mid-1948, so long as the rise is not great enough to upset the market for long-term governments. Eccles stated in April, 1948,

I want to make another matter clear: We have never made the statement that we should support all Government securities at par. What we have said is that we should maintain the $2\frac{1}{2}$ percent rate on the long-term bonds. That should be the basic long-term rate.

The short rate should be permitted to fluctuate to the extent that it can be useful.¹⁶

President Sproul of the Federal Reserve Bank of New York agreed with this principle.¹⁷ In August, 1948 Eccles again argued the rate on certificates should be raised above $1\frac{1}{8}$ per cent, and seemed—though his statement was not clear on this point—to favor a gradual withdrawal of Federal Reserve support from short-term governments while firmly supporting the long-term issues.¹⁸ It seems very doubtful, however, that yields on Treasury bills and certificates can be raised very much above the levels attained by the autumn of 1948 without forcing the Federal Reserve to buy large quantities of long-term government bonds to prevent their yield from rising above $2\frac{1}{2}$ per cent. This is in line with Eccles' appraisal of the situation in April, 1948:

. . . Short-term rates probably cannot be raised much more without unsettling the $2\frac{1}{2}$ percent rate for long-term Treasury bonds.

When I say "cannot be raised much more," I am thinking in terms of an eighth of 1 per cent, to a maximum, say, of one-quarter. If you made the certificate rate $1\frac{1}{4}$ that would be raising it an eighth. If you raised it a full quarter, ultimately that would be $1\frac{3}{8}$. There may be, under certain conditions, a possibility of going as far as $1\frac{1}{2}$ in a short-term rate, but I certainly can't foresee that now.

101-2. Secretary of the Treasury Snyder stated, "I think we are definitely committed to a support of the $2\frac{1}{2}$ percent rate." See *Hearings Before the House Banking and Currency Committee on S. J. Res. 157*, August 4, 1948, p. 250.

Several specialists in the money market have pointed out to the writer that practically all the public statements of Federal Reserve officials have been to the effect that the long-term rate will not be allowed to rise above $2\frac{1}{2}$ per cent, not that the bonds will be supported at or above par. These observers believe that the distinction may be significant, for the Federal Reserve might contend that a bond price fractionally below par would still produce a yield of only "approximately $2\frac{1}{2}$ per cent."

¹⁶ *Hearings Before the Joint Committee on the Economic Report*, April 13, 1948, p. 16.

¹⁷ *Hearings Before the Joint Committee on the Economic Report*, May 12, 1948, p. 93.

¹⁸ *Hearings Before the House Banking and Currency Committee on S. J. Res. 157*, August 3, 1948, pp. 181-82.

Clearly you can't let the short-rate go up to a point where pressure on the long-term rates result, so you have to support the long-term market.¹⁹

Secretary Snyder had stated earlier that, "We feel there are very narrow limits in which you can consider increased interest rates."²⁰ Sproul, relying heavily on the argument that even the longest-term bonds are in effect demand obligations so long as their price is supported by the Federal Reserve, believes that there is somewhat more room to raise the short-term rates without upsetting the 2-½ per cent rate on the long-term obligations.²¹ But he would probably agree with Eccles that so long as the 2-½ per cent long-term rate is prevented from rising, short-term credit cannot be made expensive; it can only be made a little less cheap.

In summary, it appears that both Federal Reserve and Treasury officials have decided that for "the foreseeable future" they will not allow the yield on the longest-term governments to rise above 2-½ per cent and that yields on the shorter-term issues will not be allowed to rise to a point where they will endanger the stability of the long-term rate.

Federal Reserve and Treasury officials have offered many reasons for continuing to stabilize the yields on government securities at low levels despite the upward sweep of inflation. Among those most frequently advanced are the following: (1) Increased rates on the federal debt would add to the already large interest burden.²² They point out that with interest charges already amounting to about \$5 billion a year and averaging 2 per cent of the outstanding debt, every increase of one-half of a percentage point in the average rate would add about \$1.25 billion to federal interest costs. It is important to note here that the Treasury could follow either of two general lines of action if it were decided to terminate the policy of maintaining low interest rates. The first would be to refund at higher interest rates only the maturing debt, allowing the rest of the outstanding debt to decline in price. This would postpone the full increase of interest charges, but it would impose capital depreciation on banks, insurance companies, and other holders. The other line of action would be to refund the entire debt at whatever

¹⁹ *Hearings Before the Joint Committee on the Economic Report*, April 13, 1948, p. 18. Eccles later stated, "... so long as you hold the 2-½ per cent rate ... the range within which the short-term rate can rise would be within its present 1-⅓ and I would say possibly 1-½ per cent." *Hearings Before the House Banking and Currency Committee on S. J. Res. 157*, August 3, 1948, pp. 182-83.

²⁰ *Hearings Before the House Banking and Currency Committee*, November 25, 1947, p. 50.

²¹ *Hearings Before the Joint Committee on the Economic Report*, May 12, 1948, p. 93.

²² Board of Governors, *Annual Report*, 1945, pp. 5-6. *Hearings Before the House Banking and Currency Committee*, November 25, 1947, p. 50. *Hearings Before the Joint Committee on the Economics Report*, November 28, 1947, pp. 246-47.

rates of interest were required to prevent government securities from falling below par in the face of tightened credit conditions. Though this would protect holders against capital depreciation, it would immediately increase significantly the interest costs of the Treasury. Neither Federal Reserve nor Treasury officials seem willing to follow either course of action except to the limited extent of raising somewhat the shorter-term rates of interest. (2) Fluctuating prices and yields on governments would greatly complicate the Treasury's refunding operations—a serious matter with \$49 billion of the debt falling due within a year and nearly \$100 billion within five years.²³ (3) An increase of the yield on governments, which without an increase of coupon rates would mean a decline of their prices, would impose capital losses on financial institutions and other holders and might lead to panicky selling and loss of confidence in financial institutions.²⁴ Officials recall the drastic decline of bond prices in 1920 when the federal debt was only \$26 billion and point to the greater possibilities of panic now that the debt is ten times as large and represents about 60 per cent of all debt in the country. Eccles has stated that with the public debt as large as it is today a free market is out of the question if that is taken to mean an unmanaged, unsupported market. The real question cannot be whether yields shall be free or pegged; it must relate to the levels at which pegging will occur. "There is no natural level. . . ."²⁵ (4) A decline in the prices of marketable government securities might lead to wholesale redemptions of the nonmarketable savings bonds, which are in effect demand obligations. (5) A moderate rise of the yields on government securities would not be effective as an anti-inflation measure.²⁶ Federal Reserve officials have argued that a rise of rates so small that it would not greatly increase interest costs to the Treasury or cause serious capital losses to holders of bonds would not be a strongly restraining factor. (6) Low interest rates and generally easy credit eased the process of reconversion and will help to maintain high levels of employment and production.²⁷ As late as May, 1948 Sproul contended that allowing long-term governments to decline more than

²³ See Eccles' statement in *Hearings Before the House Banking and Currency Committee on S. J. Res. 157*, August 3, 1948, p. 183.

²⁴ Board of Governors, *Annual Report*, 1945, p. 7. *Federal Reserve Bulletin*, January, 1948, p. 11. *Hearings Before the Joint Committee on the Economic Report*, November 25, 1947, p. 140. *Hearings Before the Joint Committee on the Economic Report*, December 10, 1947, p. 620. *Hearings Before the Joint Committee on the Economic Report*, May 12, 1948, pp. 101-2.

²⁵ *Federal Reserve Bulletin*, November, 1946, pp. 1231-32.

²⁶ *Federal Reserve Bulletin*, January, 1948, pp. 15-16. *Hearings Before the Joint Committee on the Economic Report*, November 25, 1947, p. 139.

²⁷ Secretary of the Treasury, *Annual Report*, 1946, p. 3.

fractionally below par would interfere with private flotations of loans and might have deleterious effects on production and employment.²⁸

Effects on the Functioning of the Economy

If, as seems likely but not certain, the Federal Reserve continues to stabilize the yields on government securities at low levels, refusing to let the longest-term rates rise above 2-½ per cent and limiting the rise of short-term rates to levels consistent with the longest-term rate, what effects will this have on the operation of the economy? The most obvious effect, of course, is to hold down interest charges on the federal debt, thereby limiting the amount of taxes that must be collected for this purpose; and to protect holders of government securities from capital losses in terms of money, though not in terms of purchasing power. These results are far from insignificant. But much more important, I believe, are the effects on monetary policy, the behavior of the money supply, and the cost and availability of funds for private investment and consumption purposes.

With the adoption of this policy, the functioning of the Federal Reserve has been radically altered. This is most apparent in the case of open-market operations. Traditionally, this was the one instrument over which the Federal Reserve had complete and accurate control; the System could buy or sell precisely that amount of securities which it considered appropriate in light of existing and prospective economic conditions. But under its present policy of stabilizing government prices according to a selected pattern it has lost almost completely its initiative and its accuracy of control over its holdings of governments. It must as residual buyer purchase all the governments that others are unwilling to hold at the selected pattern of support prices. It must (1) purchase them not only from commercial banks but also from all other types of holders, and (2) purchase them regardless of the purposes for which the sellers will use the money. These two points are so important that they will be developed further.

In the past it has ordinarily been expected that the Federal Reserve would affect the supply of money and loanable funds primarily through the commercial banking system. It was a system of "bankers' banks"; it lent primarily to commercial banks, and even its open-market operations were undertaken primarily to affect the volume of commercial bank reserves and lending power. But with this new policy of supporting the prices of governments regardless of the type of institution or person selling them, access to Federal Reserve credit is no longer limited to commercial banks, but also extends to savings banks, in-

²⁸ *Hearings Before the Joint Committee on the Economic Report*, May 12, 1948, pp. 101-2. See also his testimony on pp. 94-95.

insurance companies, many other types of financial institutions, nonfinancial corporations, and individuals. This might not have been an important change prior to 1933 when the federal debt was small, but as Table I suggests, it is of the greatest importance when the federal debt held outside the government and the Federal Reserve amounts to nearly \$200 billion and that held by nonbank investors amounts to more than \$130 billion. So long as the Federal Reserve follows its present policy all these institutions and persons are in a position to secure at their option very large amounts of additional

TABLE I.—HOLDINGS OF UNITED STATES GOVERNMENT SECURITIES,
DIRECT AND FULLY GUARANTEED^a

(In billions of dollars)

Type of Holder	Holdings as of March 31, 1948	Holdings as of June 30, 1948	Increase from June 30, 1940 to March 31, 1948	Holdings on March 31, 1948 as a Percentage of Hold- ings on June 30, 1940
Commercial banks	\$65.4	\$16.1	\$49.3	406
Mutual savings banks	12.1	3.1	9.0	390
Insurance companies	23.8	6.5	17.3	366
Other corporations and associations	21.8	2.5	19.3	872
State and local governments	7.5	0.4	7.1	1875
Individuals	66.8	10.3	56.5	649
Total held outside the Federal Reserve and U. S. Government agencies and trust funds	197.4	38.9	158.5	507

^a *Federal Reserve Bulletin*, June, 1948, p. 700. This table includes not only marketable government issues that are directly supported, but also nonmarketable issues—principally savings bonds—which are not directly supported by the Federal Reserve. Even these, however, are indirectly supported, for the Treasury must redeem them on demand and—to the extent that its surplus and sales of nonmarketable issues are inadequate—refund them with marketable issues which are supported by the Federal Reserve.

money by selling their governments to the Reserve Banks at the support prices. And the decision as to the amount of new money to be issued in this way lies with the holders of securities, not with the Federal Reserve. The cost of this money is, of course, the yield sacrificed on the securities sold; it is an "opportunity cost." Thus, when the Federal Reserve changes the yield pattern on governments, it is in effect changing the cost of money to sellers of the securities.

Moreover, in pursuing its present policy the Federal Reserve cannot

refuse to buy and monetize governments even if it disapproves of the purpose for which the new money will be used. Holders may exchange their securities for money to be used for (1) consumption, (2) purchase or construction of capital goods, (3) repayment of debt, (4) purchase of other securities, new or old, or (5) increase of idle balances. The Federal Reserve is powerless to prevent monetization of the government debt at the selected pattern of interest rates even if the new money is used directly to inflate spendings for consumption or capital goods or is used to supply liberal low-cost loans for these purposes.

In short, we are now on what may be called a "low-yield government security standard," for the Federal Reserve stands ready to monetize all the debt that others are unwilling to hold at the selected pattern of yields. And the commercial banks can, of course, expand their credit by a multiple of any new reserves furnished to them by this process, just as they can in response to increases of the monetary gold stock.

This new policy has made Federal Reserve discount rates practically ineffective as they are raised above the level of the lowest yields on government securities held by member banks. For example, in mid-1946 the Reserve Banks discontinued the $\frac{1}{2}$ of 1 per cent preferential discount rate, so that their 1 per cent discount rate was the lowest one remaining. This had practically no effect on the credit situation, for commercial banks were holding more than \$1 billion of Treasury bills on which the yield was only 0.375 per cent, and about \$14 billion of other governments maturing within a year on which the highest yield was 0.875 per cent. The discount rate increases to $1\frac{1}{4}$ per cent in January, 1948 and to $1\frac{1}{2}$ per cent in August, 1948 were largely ineffective for similar reasons. In the autumn of that year banks held well over \$20 billion of governments maturing within a year and carrying a maximum yield of $1\frac{1}{4}$ per cent. Thus, discount rates below the yields on governments may tend to ease credit, but rates above the yields on governments which banks can sell freely to the Federal Reserve are likely to be largely meaningless. Even the "psychological effects" of rate advances above the yields on governments are likely to be insignificant when banks are largely out of debt to the Reserve Banks and know that they can remain so by selling governments at their own option.

Similarly, increases of Federal Reserve buying rates on acceptances are largely ineffective above the yield level on Treasury bills. Banks needing funds will sell Treasury bills rather than acceptances to secure needed funds, and they will shift from bills to acceptances whenever yields on acceptances rise significantly above the Treasury bill rate. The acceptance rate will continue to be of little importance,

however, so long as the volume of outstanding acceptances remains at a low level.

The Reserve System can still use "moral suasion," but this instrument, too, is seriously weakened by the fact that member banks are practically out of debt to the Reserve Banks and know that they can remain so while they have so many governments that they can sell to the Federal Reserve.

Even the efficacy of increasing member bank reserve requirements is seriously reduced by the Federal Reserve policy of buying governments freely at the sellers' option. By mid-1948 the Board of Governors had already raised member bank reserve requirements to almost the limit of their statutory authority; there remained only the power to raise requirements against demand deposits in central reserve cities from 24 to 26 per cent. In August, however, Congress gave the Board power to raise reserve requirements by an additional 4 percentage points against demand deposits and 1-½ percentage points against time and savings deposits. By using these powers to the full, the Federal Reserve could add about \$3.5 billion to the volume of reserves required against existing deposits with member banks. But it is far from certain that such a policy would either force a reduction of bank credit or curtail a rise, for member banks can easily replenish their reserves by selling some of their governments—of which they hold more than \$55 billion—to the Reserve Banks. An increase of reserve requirements can retard the expansion of bank credit for private purposes only to the extent that banks are reluctant to reduce their holdings of governments in order to acquire other assets. This point will be discussed more fully in a later section.

The Federal Reserve support program also alters the relationship of the Treasury to monetary controls. In the first place, the Treasury determines the coupon rates to be borne by its issues, so that while the Federal Reserve is committed to supporting governments at or near par the Treasury also determines within narrow limits the pattern of market yields. At times the Treasury has followed the advice of Federal Reserve officials, but at other times it has refused to do so and has insisted on maintaining lower interest rates than the Federal Reserve desired. Rumor has it that the Federal Reserve tried unsuccessfully during the war period to get the Treasury to raise yields on its shortest-term issues, and Eccles has testified that just after the war and again in early 1948 the Treasury refused to follow Federal Reserve recommendations that short-term rates be increased.²⁹ In the

²⁹ *Hearings Before the House Banking and Currency Committee on S. J. Res. 157*, August 3, 1948, pp. 187-88.

second place, the Treasury's taxation-spending policies affect the behavior of the money supply even while the Federal Reserve maintains a fixed yield pattern on governments. A fiscal policy that raises the propensity to save out of a given level of national income or that reduces the expected profitability of new investment tends to reduce the demand for bank credit and the creation of new money, while a fiscal policy that induces less national savings or that inhibits investment spendings less tends to increase the volume of new money created by the banking system. In the third place, the willingness of the Federal Reserve to buy governments at the sellers' option reduces greatly the anti-inflationary effect of Treasury redemptions of securities held by the Federal Reserve and commercial banks. When banks lose reserves as a result of Treasury retirement of Federal Reserve holdings, they can easily repair their reserve position by selling securities out of their own portfolios to the Reserve Banks. For example, it is estimated that during the first half of 1948 the Treasury retired \$4 billion of securities held by the Federal Reserve. This tended, in the first instance, to reduce bank reserves, but during the same period the Federal Reserve was forced to restore \$2.8 billion to bank reserves by purchasing governments in the market.³⁰ Treasury retirements of debt held by the Federal Reserve can tighten credit only to the extent that banks are reluctant to sell governments in order to repair their reserve position and acquire other assets.

We come now to a crucial question: To what extent, if any, can credit for private investment and consumption purposes become more costly and less freely available so long as the Federal Reserve continues its readiness to monetize the government debt at low interest rates and the entire community retains its freedom to shift funds at will among the various branches of the long- and short-term money market? Would even a further rise of the demand for loan funds and/or a further decline of the propensity to save tighten credit for private purposes? My judgment is (1) that the cost of private credit can rise in a roughly parallel manner to the increases in yields on governments produced by changes in Federal Reserve support levels, but

³⁰ This does not pretend to be a complete discussion of the effects of fiscal policy. Its purpose is merely to point out that with everyone free to sell securities to the Federal Reserve, the use to which the Treasury applies its surplus revenues is less important than it would be if banks and others did not have access to the Reserve Banks at their own option. A full discussion of the subject would have to discuss separately (1) the effects on private consumption, saving and investment resulting from collecting taxes in excess of government spendings, and (2) the effects of using the surplus (a) to build up Treasury balances in its own vaults, at the Federal Reserve, or at commercial banks, (b) to retire Federal Reserve-held debt, (c) to retire commercial bank held debt, and (d) to retire debt held by others.

(2) so long as "prosperity" continues, the cost of private credit cannot rise much *relative to* the yield on governments, and the availability of credit for private purposes cannot be lessened very much.

These conclusions are based on two general considerations: (1) The Federal Reserve maintains its yield pattern on governments at any given time by standing ready to issue money (and reserves to banks) in exchange for any government securities that others are not willing to hold at the pattern of yields. (2) All holders—institutional and individual—retain their freedom to shift their funds at will between government securities and all other types of assets in such a way as to equalize the marginal attractiveness of all types of assets. The differences that have prevailed between yields on various governments and other securities presumably measure the marginal estimate of differences in risk and liquidity. Several factors could permit yields on private securities to rise relative to those on governments: (1) A rise of the estimated risk and illiquidity of private securities relative to governments. This is not likely to be important while the inflation continues. (2) Inertia. Having already made up their portfolios, some investors may be slow to sell governments in order to purchase private securities whose yields have risen. (3) Specialization of financial institutions and individual investors. Since some investors specialize in holding certain types of securities, their funds do not flow freely into other branches of the money market. (4) Policies of "balanced portfolios" and diversification of types and maturities held. Strongly imbued with these ideas, many investors may hesitate to upset what they consider to be a balanced portfolio in order to shift to other securities. Commercial banks, with their present low ratio of capital accounts to total assets, may in some cases be reluctant to load themselves heavily with risky obligations. All these factors contribute to the immobility of funds among the various branches of the money market and might permit some tightening of credit for private purposes while yields on governments are held constant. The Federal Reserve was apparently relying largely on these "frictions" when it expressed hope that by increasing member bank reserve requirements it could tighten private credit somewhat without a significant rise in the yields on governments. But it is easy to overestimate the immobility of credit.

Several developments since the prewar period may have increased the mobility of funds from government securities into other branches of the money market. Among these are: (1) The large volume of government securities held by institutional and other investors. As mentioned earlier, investors in this country hold nearly \$200 billion of federal securities, an amount considerably in excess of all other outstanding debt obligations and equal to many times the annual net

increase of private debt. Even if the flow of current savings were very small and the demand for funds very high, investors as a group would have to sell only a small percentage of their governments to be able to absorb all new private issues during any year. The importance of this point is magnified by the fact that every net sale of governments to the Federal Reserve, whether by banks or others, adds an equivalent amount to member bank reserves and permits a multiple expansion of commercial bank loans and investments. (2) The widespread ownership of government securities. If most of the outstanding governments were owned by only a few types of financial institutions specializing in a few types of private credit, the mobility of funds out of governments and into the other branches of the money market might be quite restricted. But this is not the situation, as Table I shows. The mobility of credit would seem to be enhanced by the fact that virtually all types of institutional and individual investors who ordinarily lend in the various branches of the money market hold these large volumes of governments that they can sell to secure funds for lending. (3) The fact that investors' holdings of governments are so much larger, as a proportion of total assets as well as in absolute amounts, than they were in the prewar period. For example, government securities as a percentage of their total assets increased between 1939 and 1948 from 30 per cent to 62 per cent in mutual savings banks, from 40 per cent to 70 per cent in commercial banks, and from 27 per cent to nearly 50 per cent in life insurance companies. This tremendous growth in their government holdings—which in many cases occurred largely because of the scarcity of other debt obligations—should make for an increased willingness to shift out of governments and into other type of securities, for investors are likely to feel that they are now overly safe, overly liquid, and too dependent on government obligations.

We conclude, therefore, that though the immobility of credit among the various branches of the money market will probably permit some rise in the cost and some decrease in the availability of credit for private purposes even while yields on governments are pegged at a given level, credit is nevertheless a highly mobile commodity. Though its direct objective is to control yields on government securities, the Federal Reserve is effectively controlling, though less precisely, yields on outstanding and new issues of private debt obligations. It was, I believe, the late Lord Keynes who once bemoaned the fact that central banks, operating largely through discount rates and open-market operations designed to regulate the volume of commercial bank reserves, were unable to control with any accuracy long-term interest rates. He could not make such a complaint in the United States today, but he might not be happy to know that the Federal Reserve is using

this newly developed power to hold interest rates at low levels and to assure the easy availability of investible funds despite the onrush of inflation.

It is beyond the scope of this article to assess quantitatively the contribution that our low-interest, easy-money policy has made to the height and duration of inflation. Such an attempt would require, among other things, an estimate of the interest elasticity of private saving, private investment, and hoarding. A few relevant observations will, however, be made.

In the first place, the continued assurance of a liberal supply of loanable funds and money at low rates of interest which are kept stable or allowed to rise only within a very narrow range cannot fail to be an unstabilizing factor in an economy in which expectations concerning the marginal efficiency of capital fluctuate widely relative to the propensity to save. Such a policy is, of course, appropriate to a period when the marginal efficiency of capital is so low relative to the propensity to save that investment and saving are equalized at a level of national income so low as to produce widespread unemployment. But it is not appropriate to a period in which the marginal efficiency of capital is so high relative to the propensity to save that saving and investment can be equalized only at progressively higher inflationary levels of national income. To assure a liberal supply of credit at low interest rates in such a period is to say, in effect, that the inflation shall not be hindered by any increase in the cost or decrease in the availability of investible funds; despite any rise in the propensity to consume, despite any increase in public and private demands for funds for investment spendings, despite any increase in the demand for money for transactions purposes as price levels rise, the Federal Reserve stands ready to assure an ample supply of low-cost money by issuing new money itself and by providing commercial banks with additional reserves to support new monetary issues by them. The rate of investment spendings need not be limited to the amounts the community is willing to save out of a given level of national money income, for the Federal Reserve must under its present policy create, or provide reserves to permit the creation of, enough new money to meet the surplus demand.

Such a policy seems beautifully designed to sustain continued inflation in an economy in which all the major groups—workers, farmers, and business enterprises—attempt to maintain their real purchasing power at levels exceeding the available supply of goods and services by demanding increases of their money incomes to offset, or more than offset, each rise of prices. Economists have generally condemned as unstabilizing in its effects the Federal Reserve policy, enunciated in

the early nineteen-twenties, of "accommodating industry, agriculture, and commerce" at relatively stable rates of interest. But the present Federal Reserve policy of stabilizing yields on government securities at low levels produces comparable results. With demand uncontrolled, the Federal Reserve can stabilize interest rates at low levels only at the cost of losing control over the money supply.

In the second place, I believe that the inflationary contribution of the present Federal Reserve policy is underestimated by those who concentrate their attention on interest rates rather than on the supply and availability of investible funds. Some appear to contend that low interest rates do not make much of a contribution to inflation, for they do not increase very much either the propensity to consume or the inducement to invest. I believe that this analysis is not correct. It seems to assume that the market for investible funds is perfectly competitive, with the supply of investible funds being rationed solely through increases and decreases of interest rates which are highly sensitive. It would be more realistic to recognize that many interest rates are relatively sluggish and that much of the rationing of credit is effected by non-price methods, such as the lender talking the borrower into taking a smaller or larger amount of credit than he asked for, the lender regretfully informing the borrower, "Sorry, but I'm loaned up," tightening or relaxing standards of creditworthiness, refusal to underwrite a new security issue because "the present market is too tight," and so on. A tight money policy by the Federal Reserve can have a much more restrictive effect on private investment and on consumer borrowing than would be expected from a somewhat sluggish upward movement of the interest rate structure as the supply of investible funds is restricted. Conversely, the present easy money policy of the Federal Reserve probably enhances inflation more by assuring a highly ample supply and availability of loan funds than by maintaining interest rates at low depression levels.

Conclusions

Without attempting a full analysis of our war finance program, I should like to conclude with a few comments on the Federal Reserve's support program since the end of the war. In the first place, it is impossible to evaluate Federal Reserve policy without considering as well the attitudes and policies of the Treasury and Congress. Federal Reserve officials probably share the general fear of initiating policies that might prove to be too restrictive and that might precipitate the economy into deflation, but they seem to have less of a bias toward liberal credit than do the Treasury and Congress. The Treasury has displayed an understandable but probably not justifiable determina-

tion to hold down interest costs on the federal debt, and Congress has both feared that "prosperity" would be brought to an end and refused to use its taxation-spending powers to halt the inflation. So long as fiscal policy plays such an important role in our economy and is so closely related to the functioning of the monetary system, it is probably to be expected that Federal Reserve authorities will try to cooperate with fiscal authorities and will be influenced by the attitudes of the executive and legislative departments. Most economists favor a co-ordination of fiscal and monetary policies, but they should recognize that recent experience emphasizes the difficulties of securing such coordination on a satisfactory basis. If Federal Reserve and fiscal authorities disagree, should the Federal Reserve insist on taking actions that would embarrass the fiscal authorities? Should the Treasury have veto or directive power over the Federal Reserve, or should the Federal Reserve have control over certain Treasury actions, such as determining interest rates on the federal debt? Should we establish an agency to coordinate fiscal and monetary policies? How can fiscal authorities be induced to pay more attention to the broad economic effects of their policies? To at least some extent, the unsatisfactory nature of our fiscal-monetary policy since the end of the war must be laid to the unsatisfactory division of authority between the Federal Reserve and those responsible for fiscal policy.

In the second place, it is important to distinguish between a policy of maintaining a rigid pattern of yields on government securities and a policy of merely maintaining an orderly market for governments. As pointed out earlier, a policy of maintaining a rigid yield pattern or of holding the fluctuations of yields within narrow limits is likely to be incompatible with the maintenance of economic stability; for the central bank can achieve stability of interest rates only by surrendering its control over the money supply. On the other hand, the maintenance of an orderly market in governments need not conflict with the objective of promoting economic stability if this is interpreted to mean that the Federal Reserve should buy and sell securities in such a way as to promote orderly adjustments of security prices and yields. For example, under such a policy the Federal Reserve might sell securities, or at least curtail its purchases, in order to establish higher yields but still prevent "disorderly" movements. Such a policy would be difficult to administer, however, and the Federal Reserve would have to choose between accuracy of its control over yield levels and accuracy of its control over the money supply.

In the third place, it is not at all clear just why Federal Reserve and Treasury officials have continued since the end of the war to peg yields on governments at low levels. Some of the frequently offered

justifications were given in an earlier section, but they may be rationalizations rather than motivating reasons. These seem to boil down to three principal arguments: (1) Higher interest rates would increase costs to the Treasury, (2) Higher yields without higher coupon rates would impose capital depreciation on institutional and individual holders of the government debt, and (3) Higher yield levels or the uncertainty attending the upward movement of yields, would increase the difficulty of private financing and might initiate a business recession. These arguments are of varying weight and may indicate differing policy decisions.

The argument that yields should be pegged at low levels to keep down the cost of government is unconvincing, even if all outstanding governments were immediately refunded at higher interest rates so that the full burden of increased interest costs would be felt at once. (a) It does not follow that minimizing interest costs tends to keep down the total cost of government. With interest costs making up only about one-eighth of the total costs of the federal government, total governmental costs may actually be increased if the low-interest policy enhances inflation significantly. (b) If it is felt that higher interest rates would be an "unjust" enrichment of the rentier class, the problem should be attacked through taxation rather than general credit policy. (c) Even if low interest rates do decrease total governmental costs, the avoidance of increased taxes for this purpose is less important than the promotion of economic stability. Interest costs are transfer rather than exhaustive payments, and the shifts of income involved in paying them out of higher tax collections are presumably less arbitrary than the shifts of wealth and income induced by inflation.

Also unconvincing is the argument that yields on governments should be pegged at low levels to protect holders of government securities against capital losses. (a) It is not clear that buyers of marketable government securities may properly ask for protection against a depreciation of their securities in terms of money. (b) The policy of preventing securities from depreciating in terms of money has not protected bondholders against loss of purchasing power. Many holders of the federal debt would probably be injured less by a decline in the monetary value of their bonds than by the loss of purchasing power induced by the continuance of easy-money. In general, it seems unwise to employ general credit policy to protect bondholders against capital losses in terms of money if this enhances inflation and reduces the purchasing power of all groups with relatively fixed money incomes. (c) It is not necessary to peg yields at low levels to protect holders of governments against capital losses in terms of money; the alternative is to refund the outstanding governments by issuing new securities with

coupon rates high enough to enable the securities to sell at par value in the face of the tightened credit conditions imposed by the Federal Reserve in the pursuance of its function of general economic stabilization. I am not convinced that the government is under any moral obligation to protect the holders of its obligations against capital losses in terms of money, but if this is to be our national policy it should be accomplished through appropriate adjustments of coupon rates rather than by having the Federal Reserve relinquish its control over the money supply in order to maintain a pattern of interest rates established by the Treasury at some time in the past. Such a policy would require that coupon rates on federal obligations be changed from time to time, perhaps frequently, and would probably be criticized by the Treasury, Congress and perhaps some investors who are accustomed to dealing in the conventional types of government securities. But policy should recognize that stability of bond prices, stability of coupon rates, and the maintenance of effective control over the money supply will at times be incompatible with each other in our economy. In my opinion it is of first importance that the Federal Reserve regain its freedom to control the money supply in the interest of economic stabilization, so that either the stability of government bond prices or the stability of coupon rates on those bonds should be sacrificed.

The third argument for continuing an extremely easy money policy since the end of the war—that higher yields would increase the difficulty of private financing and might initiate a business recession—is also unconvincing. It does have the merit of dealing with the objective, economic stabilization, that should be the primary concern of a central bank, but I do not believe that this objective would have indicated the assurance of an unlimited supply of low-cost money during the postwar period, and I suspect that Federal Reserve officials would not have thought so either if they had not been swayed by considerations related to holding down interest costs to the Treasury and protecting holders of government securities against capital depreciation. The Federal Reserve frequently tightened credit to halt overexpansions before the Great Depression, and it must have recognized that the slowing down of inflation during the postwar period required some restriction of private investment spendings so long as the propensity to consume remained high and government spendings for domestic and foreign purposes continued to be large. It is true, of course, that general credit restrictions are difficult to administer with precision and that they may not merely halt inflation but also precipitate a decline, but it does not follow that during a period of a high propensity to consume, large government spendings, and a very high marginal efficiency of capital

it is necessary to assure an unlimited supply of low-cost funds in order to avoid a cumulative decline of economic activity.

The growth of the federal debt to \$250 billion so that it equals one and a half times all other outstanding debt obligations does represent a marked change in our financial structure and gives rise to difficult problems of debt management. Yields on governments will probably continue for some time to dominate yields on private obligations. This, however, is no valid argument for maintaining an unvarying interest rate structure. A monetary policy aimed at securing economic stability requires control of the volume of investible funds, and with a widely varying demand this will sometimes mean variable interest rates. If, as a matter of national policy, we decide to continue protecting holders of governments against capital losses in terms of money, we should do so by varying the amount of interest paid to them, not by having the Reserve Banks passively monetize all the federal debt offered to them at a virtually invariable structure of interest rates.

THE LAW AND ECONOMICS OF BASING POINTS: APPRAISAL AND PROPOSALS

By J. M. CLARK*

Introduction

A crucial step toward clarifying the present state of the law is to distinguish two central issues: that of the non-base mill charging "phantom freight," appearing most clearly when there is a single basing point; and that of freight absorption by base mills, which would appear in isolation if every mill were a base mill.¹ The glucose cases dealt with the first issue and explicitly reserved the second. The cement case was argued mainly on the second issue.

In the issue of the non-base mill, the writer has reservations as to the legal reasoning used to deal with it in the glucose cases, but agrees with the probable economic result, assuming that reasonable latitude is afforded for differences between different mill or base prices, and for competitive freight absorption. As to freight absorption, he dissents (as will appear) from the legal reasoning on which Mr. Justice Black chose to rest his interpretation of the Robinson-Patman Act in the cement case, and sees objections to the resulting situation. These include not only serious uncertainty as to what the law requires, but inherent difficulty of clarifying it in a way that would avoid dangers of unduly rigid interpretation and enforcement, bringing unforeseen consequences, and likely to entail costs out of proportion to probable benefits. Objections apply also to law-making power exercised by the Federal Trade Commission, without proper accountability for the risky legal and economic doctrines it is free to employ.

*The author's past connections with the basing point question (now all terminated) include participation in the NRA study of iron and steel basing point pricing. Subsequently, he was engaged with Professor A. R. Burns to make an impartial report on the pricing system in cement, final completion of which was forestalled by the Federal Trade Commission's complaint against the cement industry, after which he consulted with counsel for the Cement Institute. He is aware of no present obstacles to his speaking with complete freedom, as an unattached individual.

¹The reader should note that I speak of "phantom freight" only with reference to that charged by a non-base mill at points that are nearer to it, freightwise, than they are to the base that governs the delivered price. "Freight absorption," as here used, refers to a base mill, reaching out to sell in areas where the delivered price is governed by another base; and the first mill must accept a mill net less than its own base price in order to sell there. So used, the terms have unambiguous meaning. As sometimes used, the distinction becomes clouded, because base prices at different bases may or may not be equal, and a non-base mill may or may not be regarded as the limiting case of a base mill with a base price so high as to be inoperative.

But he is seriously concerned that something should be attempted to make competitive pressures on prices stronger than they are under full-dress basing point pricing, with the appurtenances that commonly go with it. Therefore, he would be opposed to new legislation that would legalize such pricing as it has existed in the past. Some modifying legislation may be called for; but it should be approached with great caution not to destroy power of regulation, finally achieved in this field. The need may depend on the success with which the difficulties of clarification are met.

What is happening has the effect of regulation of trade practices. I believe this is not incidental to conspiracy, as Commission representatives maintain; but that allegations of conspiracy, including collusion inferred from similar acts, are mainly enabling instruments to validate orders changing trade practices. But probably neither the Commission nor the industries affected are eager for the Commission to take over the full responsibility and authority of positive administrative control in this field. So the method remains a hybrid, of the baffling sort in which years are spent arguing everything about the case except the effects (legal and economic) of the order that will finally be issued. During the basic litigation, economic considerations are elbowed out or distorted by legalistic exigencies, both sides probably producing about equally bad or irrelevant or one-sided economics. Since serious and realistic consideration of the effects of an order cannot begin until after the order is issued, economic analysis is backward, though the heart of legality in these cases is economic. This is unfortunate, but it seems to be the way our present system works.²

The Glucose Cases and the Non-Base Mill

In the glucose cases, the legal reasoning by which the decisions are supported appears fairly distinct from the real economic reason why the cases were decided as they were, which is barely indicated but not explicitly formulated. In terms of their legal reasoning, these cases seem to outlaw the non-base mill for the future, condemning the mill that has made no attempt to set up a *bona fide* base price of its own. A possible exception is the case of a mill which has had a base price,

²From the above, it is evident that my views meet one test of objectivity—they will satisfy neither side. After the strong presentation of the anti-basing-point case by Professor Frank A. Fetter and Mr. Corwin D. Edwards (in this *Review*, December, 1948, pp. 815-42) there is room for a contribution that would do something to redress the balance. This, and an invitation from the editor of this *Review*, have tempted me to enter the discussion, contrary to my former intention to stay out. But my views clearly disqualify me from presenting the basing point side of the case. If I advertised to do so, or were so advertised by others, it would be a fraud on the industries involved. The only reason for dwelling on this is that I have been so advertised in the past, when my views were essentially the same as now.

but has become a non-base mill through a reduction of the base prices of surrounding mills, to a point at which the first mill's base price no longer makes the delivered price to any destination.

One dubious legal argument, peculiar to these cases, seems not necessary to the decision reached. The Corn Products case involved a company owning a base mill at Chicago and also a non-base mill at Kansas City. In this situation, there was no defense of the non-base mill's pricing as being made "in good faith to meet an equally low price of a competitor." in the Staley case, involving an independently owned mill at Decatur, Illinois, it was held that it could not take advantage of the same defense (hereinafter called the "good-faith defense") because the price structure it was meeting—that of the company owning mills at Chicago and Kansas City—had been shown to be illegally discriminatory. Thus the Decatur mill was held to be discriminating in favor of points nearer freightwise to Chicago than to Decatur, without benefit of the good-faith defense; though the price structure it was meeting was held to be discriminatory only against points nearer freightwise to Kansas City than to Chicago. On a large part of its sales, the Decatur mill was meeting prices quite properly based on Chicago. And once the Kansas City mill became a base, this particular defect in the Decatur mill's defense would be cured for the whole area.

What would remain would be, first, the holding that this defense is available only to a mill that has shown deference to the *prima facie* case against price discrimination by setting up some *bona fide* mill price of its own. Second, if it did that, its freedom to absorb freight would be subject to the interpretation of the cement case.

As distinct from this legalistic reasoning, the real economic basis for the decisions seems to be implicit in the Court's acceptance of the idea that customers near the non-base mill are deprived of those natural advantages of geographical location to which they are entitled. This expresses the common man's sense of equity in this matter, and it seems highly probable that it accounts for the tight or strained construction put on the statutory provisions the Court had to rule on. The implications are not spelled out, but are pregnant. They assert, on behalf of the customer located near an isolated producer, a right to price treatment better than the minimum which competition, necessarily competition of relatively distant rivals, would of itself enforce in his behalf. This customer is, to a limited extent, at the discretion of the limited or partial "natural monopoly of location" held by the producer who has no closely adjacent competitors. The doctrine of "natural geographical advantages" seems to assert, in effect, that this limited natural monopoly of location is, like other natural monopolies, affected with a public interest. This, in connection with the Robinson-Patman Act, affords a

basis for an unconditional requirement that there must be some *bona fide* and substantial area of uniform mill-net pricing (or possibly, as suggested above, there must at least *have been* such an area).

This implies a limitation on the freedom of the isolated mill to choose its mill price or base price. It is not to be presumed that it must equal the mill price or base price of any one of its competitors, despite implications that might be drawn from language in the glucose cases which makes discrimination begin at the midpoint, freightwise, between two producers. Compulsory flat equality of mill prices would be one way of stultifying competition, as no economist needs to be told who is familiar with oligopoly theory; and it is not proper to infer that the Court intended to require it. One producer must be free to reduce his mill price without knowing that all others are legally required to follow suit instantly, and it would seem that he must be free to raise it on the same conditions. But he cannot safely raise it so high, relative to his surrounding competitors, that it covers only a nominal area, and would therefore appear as an evasion of the rule in these cases. This leaves the maximum allowable mill price indefinite, but indicates the kind of considerations that will sway the Court in ruling on the point.

This theory of affectation with a public interest appears, in principle, defensible, but might point to an undesired kind of regulation. If the glucose cases stood alone, or if freight absorption (as distinct from phantom freight) were still freely possible, they might lead to an interesting and novel type of hybrid, quasi-public-utility maximum-price control, with cost figures presented to sustain the burden of proof that would lie against any base price so high as to cover a suspiciously small area, and thus to be open to the charge of evading the principle of the glucose cases. Instances are conceivable, though perhaps exceptional, in which an economically serviceable plant, in order to make a fair return, might need all the income it could get from a price structure that would come close to that of a non-base mill.

But if the effect of the cement case is to abolish freight absorption or reduce it to a more or less negligible role, that will automatically set a more effective limit on relatively high base prices; and the potential venture into direct base-price control will not materialise. The hard-pressed mill which needs a high base price, plus very extensive freight absorption, would be debarred from this way of meeting its difficulties. The long-run effect of the glucose cases, then, is dependent on that of the cement case.

Freight Absorption: the Cement Case and Its Interpretation

Six points, made against "systematic" freight absorption, may be distinguished. (1) On the facts of the case, it has been used as an instrument of collusive action impairing competition in price; and the instru-

ment, so abused, should be barred. (2) Collusive or coercive tactics have in fact been used to implement and police it. (3) It is of such nature that such tactics are required to maintain it in effect. (4) It is "inherently monopolistic." (5) It is discriminatory under Section 2 of the Robinson-Patman Act, and on the facts of the case, the burden of proof under the good-faith defense has not been sustained. (6) The good-faith defense is not available to any general practice, but merely to the meeting of "individual competitive situations." Points (1), (2), and (5) hinge on the facts of the particular case, but the others are general; and the state of the law depends on how far these general contentions have been sustained and are now the law of the land.

Charges under the Robinson-Patman Act are general in that they do not expressly require a showing of collusive action; and point (6), which Mr. Justice Black upheld in the cement case, is perhaps the most general of all. Chief Justice Stone, in the Staley case, had said: "But it does not follow that respondents may never absorb freight. . . ." Mr. Justice Black, in the cement case, does not quite reverse this, but transforms it into a finding that it does follow that respondents may not continuously absorb freight. He holds that the glucose cases decided that the good-faith defense was not available to any basing point system; a single producer loses its benefit if he absorbs freight "constantly," and all lose it if each makes *some* freight-absorbing sales, since that is "evidence of the employment of the multiple basing point system—as a practice rather than to meet 'individual competitive situations.' " This, he says, applies even if there is no phantom freight, only freight absorption.³

Thus he supports his holding that the glucose cases control the cement case, despite Chief Justice Stone's reservation. This seems an unwarranted extension of Chief Justice Stone's remark about emphasizing individual situations, which is already satisfied by requiring verification of the particular price that is being met.

The effect of this ruling hinges on whether it is conditioned on an independent finding of collusive action, or whether, as seems likely, it makes freight absorption, if prevalent to the degree described, *in itself* evidence of such constructive collusion or common following of a practice as would forfeit the benefit of the good-faith defense.⁴ In the latter case, we now have the spectacle, strange in American law, of the legality of A's act being at the mercy of what B may independently do;

³ Federal Trade Commission *vs.* Cement Institute *et al.*, October term, 1947, nos. 23-34, separate print, pp. 37-40.

⁴ While Section 2 of the Robinson-Patman Act is not contingent on collusion, collusion would naturally forfeit the good-faith defense; and the Commission so framed its cement order, which the Court is here upholding, as to apply only to common action.

and of a right, in theory equally available to all, not only emasculated by procedural obstacles, but legally voided if all take advantage of it, even to a limited extent, and with or without joint action.⁵ In that case, it is my layman's conviction that this is bad law, perhaps of the kind which hard cases proverbially make. There is ground for holding that, without common action, freight absorption would be less precise. No sound ground has been established for holding that it would not still be general.

This theory of inferred common action robs of meaning the position frequently expressed on behalf of the Commission, that freight absorption is not *per se* illegal, because the Commission has dismissed cases in which there was basing point pricing but no showing of collusion. The point is: was this dismissal a mere exercise of discretionary leniency in cases it could win if it chose, under the doctrine of the cement case? Legality is one thing and discretionary leniency another.

But there is one feature of the glucose cases that clearly does not carry over to the issue of freight absorption. Discrimination, to be illegal, must be calculated to injure competition. The kind of injury held to exist in the glucose cases was that suffered by a candy-maker who had to pay more for his glucose than his competitors, because he was far from a base mill, though near a non-base mill. It is the kind of injury that results from "phantom freight" and not from freight-absorption under a multiple-base system. For "phantom freight" directly affects the relative prices paid by different customers in competition with one another, and freight absorption does not. If freight absorption, as such, injures competition, the injury is of a totally different sort from that held to exist in the glucose cases. Therefore, the ruling of the cement case, under the Robinson-Patman Act, rested not only on the glucose cases but on an independent holding that freight absorption impairs competition between the sellers (as distinct from that between the customers) through the "matching of prices" which it brings about, when systematically practiced.

It is interesting that the company is wrong if it meets a competitor's actual, but discriminatory, price; and if it meets a calculated price of the sort the base mill could make without discriminating (base price plus freight), then it is wrong again unless it takes pains enough to verify whether this price actually exists. Between the two rulings, the good-faith defense seems to be squeezed fairly flat. Professor Fetter attempts to eliminate it completely, this being necessary to his contention that the law now requires uniform f.o.b. mill pricing; and two of

⁵ The analogy of obstructing traffic by standing on the sidewalk, of which the same thing is true, does not present comparable interests or exposures.

his positions do substantial violence to historical fact.⁶ He treats Section 2(b) of the Robinson-Patman Act as a new provision, and states that it was ingeniously devised and "smuggled into the bill," by or on behalf of the basing point interests. The fact is that this subsection was an amended version of a provision of the Clayton Act of 1914 (as Fetter had himself stated five pages earlier).⁷ And the nature of the amendment was to burden the former exemption with such heavy procedural obstacles as to make it of extremely doubtful effect. It makes "discrimination" *prima facie* unlawful, and this has been held to include freight absorption. Under the good-faith defense, it puts the burden of proof on the industry to rebut this *prima facie* presumption, including the burden of proving "good-faith," and it makes the burden more exacting by substituting "an equally low price of a competitor" for the more general phrase, "to meet competition." If counsel for basing point interests devised this amendment to increase the protection of his clients, his sanity should be inquired into. It was this "smuggled" amendment that facilitated the throwing-out of the good-faith defense in the cases under consideration.

Another erroneous statement of material bearing on this subject is in connection with Fetter's argument that the *prima facie* case against discrimination could not be rebutted (not even if the statute says it can) by showing that it was done "to meet an equally low price" previously made by a competitor, "for this is always the motive of discrimination."⁸ The fact is that it is not always the motive. In the period when the Clayton Act of 1914 was being debated, the kind of geographical price discrimination that was fresh in the public mind was the kind of predatory local price-cutting brought out in the Standard Oil case of 1911, through which independents were ruined by locally concentrated price-cutting that did not stop with meeting their prices, but was aggressive in setting prices below theirs, and which they could not meet. The imposing of "punitive bases," alleged in the cement case, is essentially similar, indicating that this issue is not exclusively ancient history. It is this kind of aggressive discrimination, not covered by the good-faith defense, which the clause was most clearly intended to prohibit.

⁶ I take this occasion to express publicly my sincere congratulations to Professor Fetter on what is in considerable part a well and valiantly earned personal triumph in an attack on a far-from-perfect condition. It has been a matter of personal regret that I was forced to disagree with so much of his argument and his concept of the desired remedy; mixed with intellectual enjoyment of a very pretty clash between incompatible concepts of method.

⁷ F. A. Fetter, "Exit Basing Point Pricing," *Am. Econ. Rev.*, Vol XXXVIII, No. 5, Dec., 1948, pp. 816, 821.

⁸ Fetter, *op. cit.*, p. 822.

It prohibited (predatory) beating of the other's price, and exempted meeting it. With only a procedural change in the statute, it is now construed to prohibit meeting (if sufficiently prevalent) while occasional beating of the other's price reduces the legal danger. What made the inversion? Simply the Commission's theory of what impairs competition, plus its theory of inferred common action. These theories make the law. Such latitude, alarming as it is to a lawyer, is needed, because impairment of competition cannot be defined by mechanical rules describing the form of a trade practice. But the process now in effect lacks essentials of "due process" appropriate to such powerful Commission law-making.

The issue is interestingly complicated by one further consideration. If, in this type of industry, there had been found leading cases—admittedly unlikely—in which producers generally and voluntarily followed uniform mill pricing, I am sure that the resulting division of selling areas among producers, plus sporadic high prices to buyers in scarcity areas, forced to import from a distance, would have led to complaints; and the authorities would, or could, have found that this price structure, and division of the field, could not be maintained without collusive action, the individual incentive to absorb freight being so strong. The moral is uncertain, but not wholly reassuring to those who are relying on uniform mill pricing as the one legally safe course. It merely ranks, along with deliberate diversity of pricing practice, as the most nearly safe course.

Freight Absorption: Mr. Edwards's Interpretation of the Effect of the Cement Decision

It seems that Mr. Edwards reflects more accurately than Professor Fetter the present state of the law, including its ambiguity and uncertainty. He sees, as still permissible, some undefined scope for freight absorption, much reduced and not "systematic" but capable of covering a "considerable number of instances," and not limited to "isolated and sporadic transactions" (despite the language of the cement decision). At the same time he admits that, for industries that have been following basing point pricing, any practice that would produce a similar result—as extensive freight absorption would do—is "hazardous," even if done without collusion. Yet Mr. Edwards states: "There is nothing but business policy to require these sellers—both those who are under orders by the Commission and those who are respondents in cases not yet decided—to adhere to a rigid f.o.b. mill pricing system." Is this a criticism or a warning? He is inviting the companies to incur admitted legal hazards to test the meaning of the law in what is likely to prove the expensive way, by absorbing freight until the Commission "cracks

down." Elsewhere, he has indicated that a producer is safer if he sometimes beats the other price, instead of meeting it, thus forfeiting the good-faith defense in the not-too-certain hope of meeting the Commission's alternative test, of not impairing competition.⁹

The discussion contains suggestions of two different, and to some extent incompatible, limitations on price-meeting (or matching). One results from the irregularity and uncertainty incident to abolishing freight-rate conversion books, and letting customers use their own truck and water transport.¹⁰ The other would result from limiting freight absorption to cases in which the seller has collected and preserved evidence verifying the price he is meeting, to meet the burden of proof under Section 2 (b). This would be practicable chiefly in cases where rail freight is used. In the other cases there would often be no knowable price to which the concession could be equated, so the good-faith defense would not be available. But that has nothing to do with whether they are cases in which freight absorption would be monopolistic; in fact, they include precisely the kinds of cases in which the Commission has been hoping to jar loose more active price competition by introducing irregularity or uncertainty as to what the competitor has to meet, and so making oligopoly less "perfect." The discriminator would have to trust that the Commission would hold that this kind of discrimination does not lessen or injure competition.

Another suggestion, growing out of Mr. Edwards' remarks on the present situation, is that freight absorption is permissible when it is a favor to a buyer who cannot get supplies from a nearby mill. That is, it is justified in cases in which the seller has no normal economic incentive to make the concession, because he can get the business without doing so. The suggestion that this situation might be met by sellers exchanging customers is rational, but collusive, hence would be done at the peril of antitrust action.

Another implication derivable from arguments used in the cases is that freight absorption is all right if only one producer does it, but becomes wrong if his competitors do the same thing in his territory, because then the discrimination becomes "mutual," and acquires a constructively collusive character. A final rule is purely quantitative: a little freight absorption is all right; but if it becomes widespread, it will be held to be "systematic" and therefore wrong. For this reason it seems clearly unsafe for a producer to absorb freight in all the cases in which verification of the competitor's price is feasible. I submit that these do not add up to a clarification of the distinction.

⁹ In address before anti-trust section, New York Bar Association, January 26, 1949.

¹⁰ Section 2k of the Federal Trade Commission cement order seems aimed to protect diversion-in-transit, but is obscure, so long as delivered prices are permitted.

between competitive and non-competitive freight absorption: between the allowable and the legally dangerous.

Economic Effects: Lessening or Injuring Competition

In the construction of the law, the concept of "injury" to competition seems to have been used to refer to the competition between customers, while the concept of "lessening" refers to the competition between the sellers, though it is presumably an injurious lessening that is aimed at. This is a question of economics; but to discuss it rationally, it is necessary to get rid of some of the extreme or confused contentions used on both sides. On one side, is the confusion between action to maintain uniformity in methods of deriving delivered prices from base prices, and collusive fixing of base prices themselves; or the identification of "price-matching" with monopoly, by assumption. To assume—as is persistently done—that the two are identical or inseparable, forecloses the real economic question, of the effect of "systematic" freight absorption in a basing point setting, on the forces that play on the setting of base prices. On the other side, is the confusion involved in the contention that abolition of freight absorption would set up "local monopolies." This again forecloses the same real economic question of the effect on the competitive forces that play on prices; and also the same question with respect to "service." Under widespread meeting or "matching" of prices, competition in service is very active, perhaps overstimulated. Under uniform mill pricing, it would be active only at the borders of market areas, and the benefits might not spread to customers in the interiors of the market areas in the same way that price benefits would. So there is more ground for speaking of local monopolies in service than in price, as resulting from uniform mill pricing; and competition in service is not to be dismissed as necessarily unimportant. It is, of course, only part of the picture.

The real economic question may be approached *via* the much-used letter in which John Treanor stated, "that ours is an industry above all others that cannot stand free competition, that must systematically restrain competition or be ruined. . . ."¹¹ Edwards indicates the usual construction placed on this expression by using the word "avoid" in the next sentence as synonymous with "restrain." That was not Mr. Treanor's conception. The "restraint" he contemplated consisted simply of assuring such orderliness of pricing that a producer would know the price he had to meet. Lacking this, competition took on a character of piecemeal erosion, carrying prices to bankruptcy levels when capacity was excessive—as it was a large part of the time in such a fluctuating

¹¹ Edwards, *op. cit.*, p. 830.

industry as cement—and bankruptcy did not take the bankrupt capacity out of the industry, but left it as a chronic threat to standards. If he knew what he had to meet, he was willing to compete and be competed with, asking no further “restraint”; and he conceived this as fair competition.¹²

Economists will, of course, point out, correctly, that this describes a condition bringing into play the “oligopoly” principle whereby price reductions are deterred by the certainty that they will be met; and a good many of them will further hold, incorrectly, that in this case price tends in practice to a level identical with that of monopoly. This is one more instance in which neither side is unqualifiedly right. Mr. Treanor’s view was one-sided or incomplete in accepting oligopoly as equivalent to healthy competition; his opponents are one-sided in ignoring the reality of the threat of “cutthroat competition” which concerned him, and in assuming the identity of oligopoly with monopoly.

Agreements fixing prices are not the real issue; they are equally illegal under any form of pricing structure. An order to change the form of pricing structure would not prevent such agreements. But it might alter the degree of competitive pressure exerted on producers who are setting their prices without agreeing on them. And it forecloses part of the economic inquiry if one assumes at the start that any mitigation, from the most extreme degree of pressure possible, is necessarily injurious and illegal.

One might start such a comparison of different forms of pricing by assuming half a dozen or more producers, all located at the same point of origin. They will meet one another’s prices. Barring a quite limited amount of (temporarily) secret “chiseling,” any producer reducing his price will expect it to be met, down to something close to his rivals’ marginal costs (which are less than average costs) but a price increase is not sure to be met. The upshot is that the competitive incentive to reduce prices stops at something that may be called a quasi-monopoly level; but there is no dependable mechanism for raising them if they get below this level, as they might through rising costs or otherwise. So they are likely to be sticky at some indeterminate point which may be lower, but not higher, than the theoretical quasi-monopoly level. This, in turn, may approach either the competitive or the monopoly

¹² This letter, be it noted, was written under NRA, when the official theory was that competition was “injured” when it became destructively severe, and that approved codes of fair competition were exempt from anti-trust laws. The *ex post facto* disregarding of this exemption, illustrated by the use made of this letter as evidence, has backfired, as will be seen, stultifying trade-practice conference procedure.

level.¹³ One important mitigating factor arises from the widespread practice of unpublicized shading of openly quoted prices, which may be tolerated within limits, or may ultimately be regularized by a formal price reduction. This price-shading may involve discrimination, especially in favor of large and powerful customers, and therefore may incur legal danger; but if it is not too narrowly confined in this way, it may be the most active channel of price competition.

This may be taken as the type of the oligopoly situation pertinent to this class of industries. It is sheltered from tendencies to cutthroat competition by the foreknowledge that price reductions will be met, and this shelter is not guaranteed to stop at an economically correct price; but it is less powerful than monopoly, and has nothing inherently illegal about it. Now suppose these producers to be spatially separated, each with a base price which he is free to raise or lower, and each free to absorb freight. This creates another variant of the oligopoly situation. Is it closer to monopoly, or farther from it, than the first? The answer seems to be that it is closer in some respects and farther away in others. It is closer in that, if one producer raises his base price, the resulting increased delivered prices will be met by most of the competitors making freight-absorbing sales in the area where his base controls the delivered price. (They will be met, except for price-shading or "chiselling".) It is probably closer in that the producer whose preferred price is the lowest is not in a position to set a ceiling on the base prices of his competitors; each is more nearly free to follow his own bent in this respect. But the situation is farther from monopoly in that a reduced base price may discourage some of the more distant competitors from selling in those parts of the first mill's selling area where heavy freight absorption would be required.

In theoretical terms, this represents an individual demand schedule flatter than the general industry schedule, but still with considerable

¹³ For this purpose the "quasi-monopoly" level could most pertinently be defined as the maximum profit level as seen by and for one producer who expects to keep about his existing share of total sales in the industry. This would differ from producer to producer, according to their costs, and more particularly according to the long-run or short-run perspective in which they view the effect of price on sales for the industry, and on the likelihood of attracting new capacity into the industry, and thus reducing the "shares" (no agreement on quotas implied) of the existing producers. The longer the perspective envisioned, the closer the result comes to the price of theoretical competition. Also, one producer may hope to gain "good-will," or a large long-term contract by initiating a reduction, even if met. The price for the group will be determined by the producer whose circumstances and perspective lead him to set the lowest "quasi-monopoly price." He will veto an increase above this level by refusing to follow it. Even below this, an increase initiated by one producer may not be followed by the others. The rationale of meeting an increase may be a case to which the Neumann-Morgenstern chess-game method of analysis is pertinent.

slope (slope defined as ratio of change in one producer's base price to change in his physical volume of sales—both measured percentage-wise—other producers' base prices being unchanged). But in this kind of case, a horizontal or near-horizontal individual demand curve brings about the oligopoly effect, because producers know, or soon find out, that a price reduction will be met. A rational economic objective could be theoretically defined as an individual demand curve with a slope such that the price yielding maximum profit above short-run marginal cost would be approximately sufficient to cover total cost, on the average of fluctuations.¹⁴

There is bound to be a zone of uncertainty and resulting indeterminateness, and *this zone is essential to avoiding a dilemma inherent in this situation*. Without it, if price were above the equilibrium-level, there is no dependable incentive to reduce it, since a reduction is sure to be met. In a theoretical model of this sort, active price competition can go on when price is between the upper limit, where a reduction is sure to be met, and the lower limit where a reduction would be unprofitable, even if not met. The economically desirable range of slopes of the individual demand curves of the different producers is one such that the zone of uncertainty whether a price reduction be met, will extend up as far as prices are likely to go, and down as far as the desirable competitive level of price; because it is within this zone that competition acts effectively to reduce prices. This does not depend on whether the businessmen concerned analyse their actions in these theoretical terms—they obviously do not—the question is merely how they react to a rival's reduction of price. This formulation is suggested, not merely for its bearing on the basing point question, but as a general modification of the theory of oligopoly.

From this standpoint, we may look at uniform f.o.b. mill pricing to see what sort of slopes it is likely to give to individual demand curves and whether it is likely to approximate the economically desirable range. If so, it might utilize the spatial separations of the mills to bring about a more effective form of competition than would prevail if they were all at one location. That seems to be what Professor Fetter has been aiming at. A realistic answer to this question would involve an enormous amount of factual investigation, since it depends on the geographical distribution of demand. If demand is sparse in areas potentially accessible to more than one producer, the slope is

¹⁴ It is evident that the writer does not adhere to the theory that price should always be equal to short-run marginal cost. This is hardly the place to discuss that entire theory, which would require tax-subsidized deficits, and therefore is not an appropriate standard to introduce into anti-trust policy.

relatively steep. If, in such a potentially competitive area, there is a concentration of demand so great that several sellers find it necessary to secure a share of it, the decisive portion of the curve will be horizontal, each producer will know a price reduction will be met, and the oligopoly situation will result. The eastern coastal area has had this character for the potash industry, and it has been claimed that the Detroit market has the same character for some steel products, so that for these products "Detroit minus" would take the place of "Pittsburgh plus." If there are several such concentrations in debatable territory, the curves may be broken into horizontal stretches connected by sloping segments. And the curves of different producers will differ.

A simplified model, which might roughly approximate the average from which particular cases depart, could be constructed by assuming uniform distribution of demand in two-dimensional areas, disregarding possibility that price moves will be met, and making realistic assumptions as to the relation of transportation cost (or more strictly, added cost of added distance) to total cost, and of short-run marginal cost of production to total cost. Such a model, with figures pertinent to the cement industry, yields individual demand curves with slopes such that the competitive equilibrium price, while above short-run marginal cost, would be considerably below total cost.

This strongly suggests the further conclusion that, when prices are at or above total costs, producers would soon learn that any reduction would be met, and the stickiness characteristic of oligopoly would result. Then the hope of establishing more active price competition would be disappointed, possibly after a transition period of destructive price warfare during the first "buyers' market." This conclusion is supported by the fact that price-shading could not be concealed, except at points on the precise boundaries of the marketing areas of different producers; thus increasing the certainty that price reductions would be met. The chief qualification on this conclusion is the effect of changes taking place from season to season in the geographical distribution of demand, which might lead to fresh efforts to alter the boundaries of established selling areas from time to time. The effect of this seems conjectural.¹⁵ Equally conjectural is the expected stimulus to the setting-up of small independent plants, if they are deprived of the privilege of setting a high base price and absorbing freight,

¹⁵ A few of these practical considerations are listed, but not explored, in my article: "Imperfect Competition Theory and Basing-Point Problems," *Am. Econ. Rev.*, Vol. XXXIII, No. 2, (June, 1943), pp. 284, 295-96. This refers also to Smithies' "Aspects of the Basing-Point System," in this *Review*, Vol. XXXII, No. 4 (December, 1942), pp. 423-40.

in their early days. More likely is a stimulus to large companies to establish branch plants, and an advantage for existing chain mills.¹⁶

Cross-freighting of truly standardized products would be eliminated (except for cases of local shortage leading buyers to be willing to pay excess freight, as buyers are at present). As indicating the importance of this saving, Mr. Edwards suggests that the Federal Trade Commission in 1932 made an estimate of unnecessary freight for cement, and found it about 24 cents a barrel. This gives an exaggerated impression. Freight on the finished product is a larger element in final cost for cement than for steel or probably most other products, and freight absorption was substantially greater in 1932 than in years of more normal business. Furthermore, the Commission, instead of making an independent estimate of unnecessary haulage, accepted total freight absorption as a tentative indication. This cannot be assumed to be an accurate measure. The writer attempted to get a rough indication of the direction and amount by which it differs from the answer sought, by examining a considerable number of drastically simplified models illustrative of fairly typical situations, assuming mill prices that would either be based on assumed costs, or would give each producer his previous volume of sales (presumably no set of mill prices could do this precisely in practice, but there would be strong pressure in that direction). The tentative conclusion was that the available reduction of freight costs is substantially less than total freight absorption. If considerable freight absorption persists, this saving would be further reduced, as Edwards points out.

If individual demand curves (relative to base prices) are too steep under regular basing point pricing, and too flat under uniform f.o.b. mill pricing, that suggests the possibility that something intermediate might work better than either. In a simple theoretical model, the slopes could be altered as desired by allowing limited freight absorption. If Edwards is right about the results of existing rulings, the existing law would bring about an intermediate situation, but one with unpredictable effects. This intermediate character results, first, from truck and water haulage, and absence of freight-rate books, introducing greater uncertainty as to what a competitor has to meet; and second, from a reduced amount of freight absorption. As to the first, there seems to be no way of estimating its effect on competitive pressures. Industry's claim that it starts a sequence of price-nibbles, bound to end in bankruptcy, may be exaggerated; it leaves protection of the seller to his own individual good sense. As to the second, if freight absorption does materialize and is permitted, there is no way of estimat-

¹⁶ Opinions differ as to whether mere warehouses could legally be used to secure the same effect, distributing products produced in a single plant. Assembling or finishing plants would presumably be legal.

ing its probable or legally permissible amount; and the amount would be decisive in determining the effect on competitive pressures. Finally, between these two effects there is some incompatibility. The uncertainty-effect works most strongly if there is full interpenetration of selling areas. If there is none, this effect would operate only on the boundaries, and perhaps at too few points to be very effective. Strict uniform mill pricing would weaken the uncertainty-effect; it also interferes with itself, as we have seen. The result envisioned by Edwards—a moderate uncertainty-effect plus substantial, but limited, freight absorption—seems economically sound; but I see nothing in present rulings adapted to drawing lines in the economically useful places.

Conclusion: What to Do?

The Commission's victory has been so sweeping and sudden that it may not realize how great is its present power, after years of struggle and rebuff. It may not be appropriately prepared to exercise such great power, and hangovers from the period of struggle may plague it. The prosecuting arm used unsound economic theories in fighting its cases, making it hard to convince the skeptical that the Commission—not separable from its prosecuting arm—has the sound economic understanding which its present powers require. I believe it has sounder economic understanding than appeared in the concepts it used as weapons when it was throwing everything and the kitchen stove at the companies in a desperate battle to get a basis for any order that would stick. It is of incalculable importance that the quality of its real economic analysis be demonstrated. The Commission's theory of what impairs competition—which *is* the law—needs to be brought into the open. It also needs to be adapted to the new phase in which embattled absolutes may give way to a need for sensitive gauging of matters of degree. With orders in force, real economic discussion of their effect, formerly impossible, has become indispensable.

Risking dogmatism for the sake of brevity, I believe we should accept the fact that freight absorption is in a realm, the essence of which is regulation of trade practices rather than punishment for violations of specifically knowable law, and in which economic theories make the law. Regulation should remain flexible, ruling according to the essential effect rather than the specific form of practices and accepting the resulting uncertainty as to whether, for example, freight absorption is proper in a given setting. It should continue to tell business what not to do, rather than prescribe specifically what it shall do, and should seek procedures as equitable and serviceable as possible in these premises. This means shifting emphasis from collusion (real or inferred) to more realistic consideration of economic effects of practices and proposed remedies, recognizing them as matters of degree.

It may call for considerable change from past procedures.

Unless the country wants to restore unlimited freight absorption, we should go slow on substantive changes in the law. I believe it would be a mistake to introduce a statutory definition of "price," for the purpose of changing the present legal meaning of "discrimination in price." "Price" means *both mill-net and delivered price*, and both sides use it both ways, as the subject matter requires. It is the construction of the phrase, not the word, that counts; and the phrase has been construed, I believe, in accord with the intent of the original act of 1914, though the line of legality—a distinct question—has not. A statutory redefinition of "price" might protect predatory price cutting from the condemnation of Section 2. It would move litigation back to the stage in which economics is pushed aside by legalistic verbalisms—a stage from which we may hope to be rescued by the completion of the basic litigation. In that way it would be a move in the wrong direction.

There is more ground for relieving business of the burden of proof of "good faith" under Section 2 (b), and giving it the benefit of normal business judgment in meeting competitive prices. If occasionally beating a rival's price, rather than always meeting it, is included among types of approved conduct, the words "an equally low price of a competitor" should be changed to permit the approved practice. Sufficient remedies against predatory price cutting would remain.

But the principal changes should be procedural, recognizing that honest disagreement on economic theories should not convict anyone of illegal intent; and that penalties for violation of a Commission theory, not previously and clearly announced and upheld, are *ex post facto* and improper. A cease-and-desist order may amount to a penalty, heavier than a fine which would be regarded as "excessive." Such orders should follow procedures adapted to relieve their *ex post facto* character. The most logically appropriate procedure for making the law specific—the trade-practice conference—is probably useless, since there is too much likelihood that the necessary joint action could be used as evidence against the companies in later complaints, as things done and written under NRA were used. Hence the companies would not dare go beyond innocuous platitudes; and the Commission would be similarly chary for fear of impairing its future freedom to attack any practice.

I believe the most useful changes would be of the following sort. In a finding that an existing practice impairs competition, the Commission should be required to state its reasons for its finding, enunciating its theory of impairment, defined as making things worse than some alternative condition that could conceivably come about in the specific conditions of the industry in question. This should be done

in the complaint, making it arguable in the Commission proceedings as well as on appeal. This would exclude much of the economists' testimony taken in the cement case, and require testimony of a more relevant sort. As to the nature of the alternative condition, there is a dilemma: the most logical alternative is one that could come about spontaneously, but the most practically pertinent may be one that only a Commission order could bring about. I suggest that the prosecuting arm of the Commission have the option of using an alternative of the latter sort, which would then be arguable before the Commission itself, not binding the Commission, but giving it the benefit of the resulting argument in framing its final order. Findings based on this optional standard could not carry penal consequences.

Orders should be subject to a similar requirement of 'a showing of positive ground for believing that the order is adapted to improve the condition complained of. This is intended to add to the present requirement that the remedy should have some appropriate relation to the offense: a requirement suited to disciplinary action against known wrongful acts.

Such changed requirements should go into effect only after a waiting period, to allow the Commission time to develop and consider its theories, in the light of the responsibilities thus imposed. If the Commission realizes its present powers, and the responsibilities and changed equities that go with them, including the seriously demoralizing effects of its present relations to business, it should realize that changes of the general character proposed would put it in a sounder position and increase its moral authority. This would be in its own best interest.

Finally, these cases emphasize the need for availability of impartial *amicus curiae* testimony and expert advice, for both Commission and courts. If, as I believe, the Court has slipped at points into bad law in both the Staley and cement cases, it is because it had only partisan arguments to choose from. No theory of public interest was available from an impartial source; and it is too much to expect the Court, in such involved matters, to construct out of whole cloth its own fresh theory of public interest. This proposal might mean the growth of a new profession of legal-economic counsel, starting with the existing nucleus of personnel trained in both fields.

The issues are much broader than basing point problems. They concern the working-out of methods, consistent with American ideals of responsible government, for handling highly specialized and technically complex issues of regulation of trade practices. These threaten the essentials of democracy if they are not effectively regulated, and threaten them equally if regulation, to be effective, has to be freed from proper standards of accountability.

A NOTE ON PRICING IN MONOPOLY AND OLIGOPOLY

By JOE S. BAIN

The conventional versions of a *a priori price* analysis apparently suggest that a single-firm monopoly or a collusive oligopoly will choose a price-output combination such as to maximize *the industry profit*.^{*} Product differentiation and selling cost being neglected, the currently established firm or firms are supposed to equate their marginal costs to the marginal revenue drawn from the industry demand curve for the commodity which they produce in common. This balance should presumably be struck over any long period between long-run marginal cost and the marginal revenue from the long-run industry demand, and in any short period between short-run marginal cost and the marginal revenue from the short-run industry demand. Price in either period should be set to maximize the difference between the aggregate revenue from the sale of the given commodity and the aggregate cost of its production by any established group of firms. Empirical studies of price policy by monopolists or by oligopolists with *apparently* effective collusion on price, however, frequently fail to sustain these predictions. In many such industries, short-run outputs at which short-run marginal costs plainly exceed short-run industry marginal revenue are apparently common. But more striking is the evidence in some of these industries of prices held persistently over many years within a range where the industry demand curve is evidently inelastic, the corresponding marginal revenue thus being negative and necessarily below long-run marginal cost.¹ This indicates a prolonged tendency (potentially for a theoretical "long-run") to hold price well below the level which would maximize the difference between aggregate revenue from the sale of the industry's commodity and the aggregate cost of producing it,² and apparently contradicts the basic *a priori* predictions of a theory of collusive pricing.

This apparent impasse has been variously resolved by students of industry with suggestions: (a) that sellers do not try to maximize monetary profit; (b) that they err in their attempt to maximize profits;

^{*} The author is associate professor of economics at the University of California, Berkeley. He is indebted to Professors H. S. Ellis, W. Fellner, and R. A. Gordon for helpful criticism of the paper and for a number of substantive suggestions.

¹ Two fairly convincing examples of this are the cigarette and steel industries.

² Of producing it, explicitly, with the "given" number of firms, but also with any other conceivable number of firms if industry marginal revenue is negative.

(c) that in the face of great uncertainty concerning demand they simply add some markup to normal average cost and hope for the best; (d) that they fear government interference and public ill will if they exploit their monopoly positions fully; (e) that the apparently collusive oligopoly is not fully or successfully collusive, so that rivalry keeps price down; (f) that sellers set low prices for very considerable time periods in order to raise the level of future industry demand; and (g) that *established sellers* persistently or "in the long run" *forego prices high enough to maximize the industry profit* for fear of thereby attracting new entry to the industry and thus *reducing the demands for their outputs and their own profits*.

Although each of these explanations may contain an element of truth as applied to particular cases, they proceed on somewhat different levels in their implied criticisms of conventional theory. The rejection of profit-maximization as a goal suggests a corresponding rejection of conventional price theory; the thesis that either errors or uncertainties are dominant suggests that if such theory is basically valid in its assumptions it nevertheless has little genuine value for predicting actual price results. The suggestion that oligopolistic rivalry reduces prices below the monopoly level leaves theory unscathed, simply implying that the model for monopoly pricing has been misapplied. On the other hand, the hypotheses concerning fear of interference, threat of entry, and pricing to stimulate future demand do not deny that the observed results may be explicable in terms of a theory of monopoly or collusive oligopoly price which assumes profit maximization, effective collusion, and approximately given data, but suggest that the industry or seller demand curves employed in that theory must be redrawn to reflect explicitly the effects of the phenomena in question.

Until the results of such a redrafting are explored, we cannot properly assess the potential explanatory value of conventional price theory. In this paper, we examine two possible modifications of the theory of monopoly price, to take account first of the relation of present price to future profit and second of the impact of the threat of entry;³ in the latter case we suggest certain possibly novel conclusions concerning the unit for which profit may be maximized and the relation of marginal cost to marginal revenue.

Interperiod Demand Relationships

An elaboration of conventional theory to recognize the relation of current price to future demand has been suggested by M. W. Reder;

³ Although the threat of government interference will not be treated explicitly, it could be handled in about the same manner as entry.

it may deserve re-emphasis in connection with the present issue.⁴

The monopolistic firm (or group of collusive oligopolists⁵) may be provisionally viewed as dealing with an entire industry demand curve in a succession of time intervals, in each of which it can freely select a price-output combination for the industry. It will thus logically take account of the effect of any current price-output decision on the position of the industry demand curve in future periods. A lower price now may mean a larger (or smaller) demand later, and any such anticipated relationship should affect any current pricing policy. If it does, a single long-run industry demand curve cannot be viewed as an independent determinant even of the long-run tendency of price. Such a relation is then not given independently of the prices which the seller(s) charge at various times during the future, but will assume various levels according to the behavior of a series of short-run prices. Instead the seller(s) necessarily refer to a series of short-period demand curves for each of a succession of future intervals; these fully replace any long-run demand curve for the purposes of making all output adjustments. And we must now speak not of a single long-run tendency for price, but rather of a price-pattern through time.

A simple model can be constructed in which a single-firm monopolist is conceived of as pricing solely in a current Period I and a future Period II. There is an industry demand curve for each such period and a corresponding pair of marginal revenue curves. Monopoly price for the first period in isolation would be set to equate the marginal cost of that period to the marginal revenue of that period. But demand in Period II may be supposed to depend upon Period I price; for example, the Period II demand curve may shift outward as Period I price falls. Viewing this relation in prospect from the beginning of the first period, the monopolist may be supposed to adjust Period I price so as to allow maximization of the sum of the profits of the two periods. This procedure may result in setting Period I price below the level for which the marginal cost and marginal revenue of that period are equated, so long as the resulting decrement to Period I profits is more than offset by a resulting increment in Period II profits (as appropriately discounted for interest and risk).

Use of the demand-supply technique in such a sequence analysis permits precise formal treatment of the effects of anticipated relations between current price and future demand. To employ the analysis

⁴ "Intertemporal Relations of Demand and Supply within the Firm," *Canadian Jour. Econ. and Pol. Sci.* (Feb. 1941), pp. 25-38, and especially pp. 32-35.

⁵ For a simplified argument, we will suppose the collusive oligopoly in each case to be a "pure" oligopoly, in which the several firms sell identical products at a necessarily identical price (the possibility of discrimination being neglected).

for purposes of prediction, we should attempt to determine the sign and value of the cross-elasticity between Period I price and Period II quantity for the monopolist—

$$\frac{\partial q_{(t=2)}}{\partial p_{(t=1)}} \cdot \frac{p_{(t=1)}}{q_{(t=2)}}$$

One can identify actual cases where this elasticity might be alternatively positive or negative in sign, or zero. Where it is negative and significantly large, a current monopoly price below the current profit-maximizing level can be formally explained; where it is positive and large, current prices above this level could be predicted. This model of course does not have the monopoly doing other than to maximize the "long-run" difference between aggregate industry revenue and aggregate production cost, so long as these are measured as capital values of future revenue and cost streams to a time horizon. But it does indicate the rational possibility of deliberate departures from profit maximization for "short" periods longer than those required to permit every adaptation in scale of firm and plant.

The Threat of Entry—General Considerations

Let us now turn to the effects of anticipated entry. Even a single-firm monopoly is not necessarily impregnable to entry if the industry is a very profitable one, and in oligopolistic industries the threat of entry is likely to be stronger. The monopolist or the group of collusive oligopolists might therefore be viewed as setting each of an indefinite succession of current prices or profits with an eye to their effect in attracting entry into the industry and thus in reducing the demand for the output of the now-established firm(s).⁶ One possibility is that the initially established seller or collusive sellers will be faced with the choice of (a) setting each of a succession of short-run prices (and hence long-run average price) so as to maximize the *industry* profit, but with the result that added firms enter the industry and reduce the share of industry profit gained by the initially established firms, and (b) setting each short-run price (and hence long-run average prices) at a lower level, thus discouraging further entry, and keeping the smaller (and non-maximized) industry profit all for themselves. Should the second course then offer larger long-run profits *to the initially established firms*, they would presumably follow it, and price could for the indefinitely long run lie below the level required to maximize the difference between the aggregate revenue from the sale of the given commodity and the ag-

⁶ The threat of entry, and its relation to price, will of course depend upon the height and effectiveness of such institutional barriers as patent holdings, control of raw materials, etc.

gregate cost of producing it. Long-run maximization of *industry profit* and of *the profit of a group of currently established firms* may not coincide. This is presumably a thesis implied by those who point to threat of entry as a factor holding price below the level which would maximize the long-run profits of the industry.

This hypothesis can easily be developed on a formal level if we accept two premises upon which it must implicitly be based. These are (1) that the established monopolist or group of collusive oligopolists are aware of any real threat of entry to their industry, and will adjust to it in such a way as to enhance their own (as distinguished from industry) profits, and (2) that potential entrants to such a monopoly or oligopoly are primarily influenced in deciding whether or not to enter by the prices charged and profits currently earned by the established firms. The first premise seems only reasonable,⁷ but the merit of the second could be contested. A potential entrant to a purely competitive industry is presumably guided entirely by the expected long-run tendency of industry price as related to his contemplated costs. This is because his increment to the industry would neither perceptibly influence the price nor engender any direct reaction from any established seller. The potential entrant to a monopoly or oligopoly, on the other hand, who will typically make a substantial lump increment to the industry capacity (since economies of scale will ordinarily require a fairly large firm), may expect both to influence the pre-existing price and to elicit some reaction from the established seller(s). This holds whether or not he contemplates collusion with those sellers. In effect, there is a special sort of oligopolistic interdependence between the established seller(s) and the potential entrants in such instances, and it is not entirely plausible that the potential entrant should entirely neglect this interdependence and view the going industry price as the principal indicator of whether or not entry will be profitable.

At the extreme, it could even be argued that a potential entrant to an oligopoly should pay little regard to price or profit received by established firms, especially if he thought price was being held down in order to "bluff" him away from the industry. He should look at the industry demand, the current competitive or collusive conditions in the industry, the prospects for rivalry or collusion after his entry, the share of the market he expects to capture, and his projected costs of production. Paramount in his considerations, provided the industry demand under some conceivable arrangement could provide profits to an entrant, should be his appraisal of the sort of rivalry and the type of price policies he will encounter from the previously established seller(s) after

⁷ To argue that sellers in concentrated industries deliberately disregard the consequences of threatened entry would picture them as unbelievably stupid.

he enters. In judging these determinants of his decision, current price or profit in the industry need play no *direct* role, since the anticipated industry price *after entry* and the entrant's anticipated market share are the strategic considerations. And if he knows the industry demand with reasonable certainty and makes calculations concerning the conditions of rivalry after his entry, upon which he is willing to act, he might look entirely past any current price set by the established firm(s). He then would be immune to bluffing, and the established firm(s) could never discourage entry by lowering prices and earning moderate profits.

The supposition that the potential entrant's judgment of industry demand and of the rivalry he will meet is entirely unrelated to current price or profit in the industry, however, probably goes too far. Even if he does not believe the observed price will remain there for him to exploit, he may nevertheless regard this price as an indicator both of the character of industry demand and of the probable character of rival policy after his entry. Industry demands are never certainly known, and they are probably known less fully by potential entrants than by established firms. The fact that the established firm(s) make only moderate profits may thus create in the mind of the potential entrant sufficient uncertainty concerning the elasticity of the industry demand curve at higher prices to deter him from entering. Moreover, he may view the price which the established firm(s) currently charge as a partial indicator of the rival price policy he will face after entry. Other considerations should influence his judgment of projected rivalry, but current pricing may be a critical factor in evaluating it. It is thus possible that the potential entrant is influenced by current prices and profits and that there may be a critical price below which he will not enter and above which he will enter. This hypothesis seems plausible enough so long as the potential entrant regards the current pricing policy of established sellers as being probably a statement of intentions rather than a bluff. It is probably more plausible than otherwise when applied to oligopolies where product differentiation is not very great, and where the entry problem is thus not unduly complicated by the necessity of gaining buyer acceptance of a new product. We will speak here primarily of its application to oligopolies with relatively slight product differentiation.⁸

On the basis of the preceding argument, we may provisionally accept the second premise of the thesis concerning threat of entry, that the potential entrant to a monopoly or oligopoly is primarily influenced by

⁸ It may be added that with imperfect market information, "potential entrants" may be made aware of the possibilities of an industry mainly by its profit record, and will never present an active threat if they are not alerted by high profits. In this case, low current prices and profits may serve as a deterrent to entry because they do not attract attention and thereby create actively potential entrants.

the price charged (and profit earned) by the established seller(s)—influenced not because he expects this price to hold unchanged after entry, but because he regards it as “proving” the industry demand at a given level and as a critical indicator of the projected state of rivalry or price policy after entry. Accepting the first and second premises, we may now investigate their formal implications for the price policy of an established monopolist or group of collusive (pure) oligopolists faced with a threat of entry. What will happen in these cases if (a) the established sellers(s) anticipate any threat of entry (highly probable), (b) potential entrants are influenced in their entry decisions by current price in the industry (a strong possibility), and (c) the established seller(s) know this and consider adjusting their prices to discourage entry.

A “Limit Price” Analysis

For a formal treatment, two special concepts may be conveniently employed. The first is the “limit price,” or highest common price which the established seller(s) believe they can charge without inducing at least one increment to entry—presumably a significant lump increment. This limit price depends ultimately upon the cost functions which potential entrants expect to have, upon their estimates of the industry demand and of the share of the market which they can capture if they enter, and upon their view of the degree of competition or collusion which will obtain in the industry after their entry. The subjective estimate of this limit price by the established seller(s), however, rather than the view of potential entrants, is the real determinant of the price policies of the established seller(s). Since the limit price must be defined in terms of the guess of the established firm(s) concerning the anticipations of the potential rivals, it is especially subject to error as an *ex ante* magnitude, and it may be invalid if potential entrants read it as a bluff. But it is nevertheless potentially valid and determinate.⁹ The second concept is the estimate by the established seller(s) of the conditions of demand for their outputs after entry occurs in response to their setting a price above the limit. This involves their estimate of the market share they will lose to an entrant, and also of the conditions of competition or collusion which will obtain after entry. If the established seller(s) formulate estimates on limit price, as defined, and on the position and character of the demand for their outputs after entry, these estimates can be recognized in an anticipated demand curve or sequence of demand curves for their outputs, and a formal solution developed.

This solution can follow the lines developed for the case of inter-

⁹ Account must be taken, of course, of the consequences of erroneous as well as correct estimates of this price by the established seller(s).

dependence of prices through time. We can first construct a given industry demand curve for the current Period I and for Periods II, III, etc.¹⁰ The demand for the output of the established seller(s) in the current Period I is the industry demand of that period. In any later period, however, it can be expected to be the same as the *industry* demand only so long as price in the preceding period has remained at or below a limit price, A, so that entry has been forestalled. If any given period price is set above A, the demand for the output of the established seller(s) in all later periods is expected to become less than the industry demand by the amount of a market share going to the new entrant, and it may be otherwise altered or made uncertain if effective collusion with the entrant is not contemplated or considered attainable. If entry will occur in discrete lumps, moreover, the demand for the output of the established seller(s) in later periods does not shift continuously in response to variations in Period I price. Instead it makes a discrete shift backward if A is surpassed in Period I, and the solution is affected by this discontinuity. Given these conditions, the established seller(s) will devise a price policy for Period I and in all later periods so as to maximize the discounted present value of profits for all future periods. With an effective threat of entry, it is potentially consistent with such profit maximization by the established seller(s) that price will be held at the limit level continually through time, even though this limit price may in every current period be lower than that for which the marginal cost of the established seller (or horizontally added marginal costs of the established sellers) equals the marginal revenue drawn from the industry demand curve for that period. Such a solution can be determinate and give stability without entry for the indefinitely long run (permitting all desired adjustments of scale by the existing firms) provided the limit price estimated by the established seller(s) is in fact low enough to exclude entry. If the established seller(s) set a "limit" price which turns out to be too high to exclude entry, of course, their error may result in an effectively irreversible change in the structure of the industry.

Because the sequence analysis is unnecessarily awkward for dealing with the threat of entry, the preceding solution is only sketched. Assuming no interdependence of the *industry* demands of successive time periods to be involved in the case, the impact of a threat of entry can be analyzed more easily by referring to the anticipated long-run demand conditions for the output of the established monopolist or collusive oligopolists—or to the expected response of their long-run average sales to changes in the average level of price they maintain

¹⁰ Each such industry demand curve is assumed to be independently given in the absence of inter-period price relationships.

over long periods. Following this course, two alternative models may be developed, one assuming that the established seller(s) anticipate rivalry and lack of agreement with any new entrant, and the other assuming that they anticipate collusion with any new entrant.

The first model postulates (1) a determinate long-run demand curve for industry output, which is unaffected by price adjustments or by entry; (2) occupation of the industry initially by a single-firm monop-

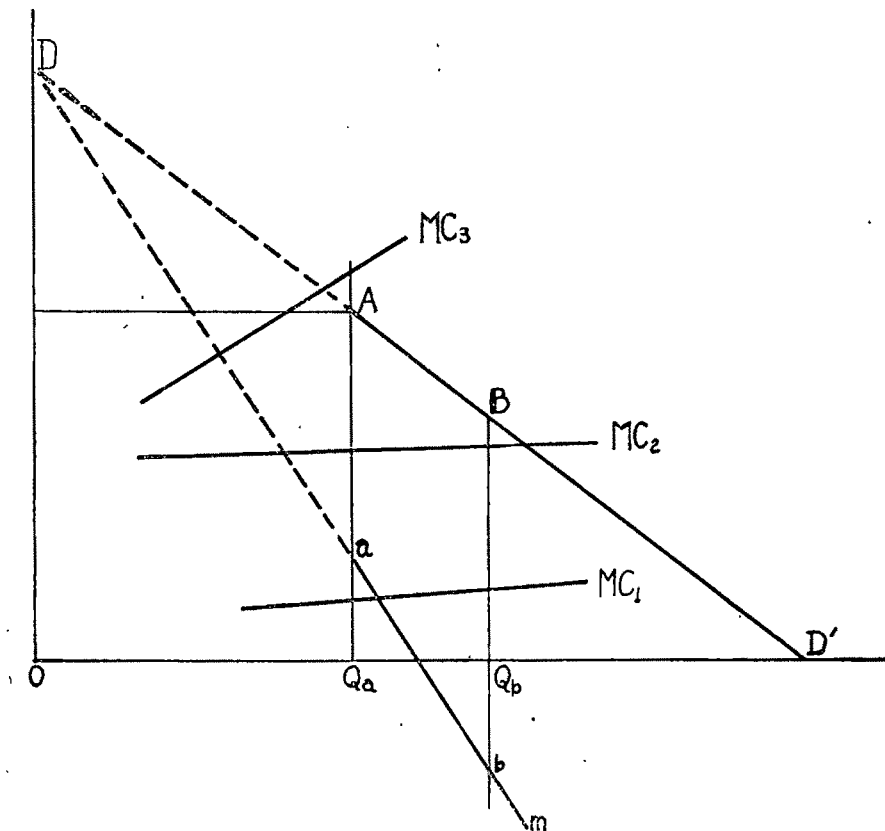


FIGURE 1

list or group of effectively collusive pure oligopolists; (3) estimation by the established seller(s) of a limit price above which a "lump" of entry will be attracted; and (4) considerable uncertainty on the part of the established seller(s) concerning the conditions of demand for their outputs if entry is attracted. Given these conditions, the anticipated long-run demand for the output of the established seller(s) may be analyzed as follows. The long-run industry demand curve is supposed to be the line $DABD'$, as in Figure 1, and the marginal revenue drawn

to it is Dabm. This demand is assumed to be unaffected by any adjustments sellers may make. Suppose now that the limit price above which the established seller(s) expect an increment of entry is Q_aA : If they charge more than this (or produce less output than OQ_a , thus causing the effective market price to exceed the limit), they expect to experience some indeterminate loss in sales volume to an entrant and some indeterminate change in price. The anticipated demand curve for the output of the established seller(s) above the price Q_aA thus is *not* DA. They have the truncated demand curve AD' to exploit up to the price Q_aA , and the corresponding marginal revenue segment am . But if they raise or attempt to raise long-run price above Q_aA , the anticipated long-run demand curve for their output becomes indeterminate somewhere in the range to the left of A. They thus have the choice of the truncated industry demand curve AD' for exclusive exploitation up to the price Q_aA , and an indeterminate demand for their outputs if they once go above Q_aA . It should be especially noted that they are unable to sell less than the amount OQ_a at the price Q_aA and thus to exclude entry, since this would result in an effective market price higher than the limit, *via* resales, and thus presumably "reveal the bluff" and attract entry.¹¹

The alternatives open to the established seller(s) are now (1) to sell more than OQ_a at a price below Q_aA , thus excluding entry, (2) to sell OQ_a at the price Q_aA , also excluding entry, and (3) to raise price above Q_aA , or reduce output below OQ_a , thus attracting entry and taking chances on profits and prices in the ensuing indeterminate situation. They will presumably pursue the course that promises to be most profitable, taking account of the fact that profits under courses (1) and (2) are relatively determinate whereas profits under course (3) are indeterminate and hence highly uncertain. The established seller(s) will follow the first or second course in preference to the third wherever the relatively certain profits offered by those courses exceed the heavily risk-discounted gain attainable if entry is attracted *via* higher prices. The possible positions in which the established seller(s) in various industries may find equilibrium may be illustrated as follows. Suppose a single long-run marginal cost curve, for the initially established monopolist, or alternatively a uniquely determined aggregation of marginal cost curves for the initially established collusive oligopolists in any industry. This we label MC. Now first this marginal cost may in some industries lie at MC_1 (Figure 1), intersecting the relevant industry

¹¹ We exclude herewith the possibility of effective private rationing or price discrimination by the established seller(s), which might enable them to produce less than OQ_a and still hold the effective market price at Q_aA ; this appears to be a special and unlikely case.

marginal revenue segment am .¹² Then the established seller(s) will almost certainly set price and output by this intersection, provided average costs are less than the resulting price. In this case, industry profit will be maximized at a price below the limit, entry will be forestalled, and the number of sellers in the industry will be in long-run equilibrium. Conventional monopoly maximization is possible without further entry being attracted. This case subsumes all those where entry is blockaded or where the limit price is so high as to be economically irrelevant.

Second, marginal cost may in other industries fall at MC_2 , lying above industry marginal revenue but below price at the limit output OQ_a , with average costs less than Q_aA . In this case, provided the profit offered seems preferable to the gamble of inducing entry, the established seller(s) will produce OQ_a and sell at Q_aA . (They will then not choose the intersection of MC_2 and the marginal revenue D_a , since this would give a price which would induce entry.) In this case entry is also forestalled and the number of sellers in the industry is in long-run equilibrium, but marginal cost exceeds industry marginal revenue and *industry* profits are not maximized.

Third, marginal cost may fall at MC_3 , lying above price at the limit output OQ_a , but with the corresponding average cost lying below price at this output. The established sellers will still choose to produce OQ_a and sell at Q_aA , so long as the resulting profit is considered preferable to the gamble if entry is induced. Again the number of sellers will remain constant, but industry profits will not be maximized and *marginal cost will exceed price*—not a probable but nevertheless a quite possible and rational result.

The general argument developed for the last two cases may also be applied on the supposition that the limit price lies at some level Q_bB on the industry demand curve, where this demand is less elastic than unity and the relevant marginal revenue segment, bm , is entirely in the negative range. We may still have equilibrium with entry forestalled at the limit price Q_bB (not rationally below it) with marginal cost above industry marginal revenue and possibly above price, but with the difference that industry marginal revenue is negative.

These solutions involve the premises that potential entrants recognize a limit price below which they will not enter, and that the established seller(s) know this and do not overestimate the limit price. Should

¹² In this and each of the succeeding cases we refer to distinct industry situations, each with a separate limit price, a separate initial marginal and average cost function, and a different relation of marginal and average cost to the limit price. We do not suggest different relations of cost to limit price in a single industry, but rather differences among industries in this respect.

potential entrants fail to be influenced by price, a stable solution will not result if entry promises to be profitable; if they are so influenced but the established seller(s) set too high a price, there will be entry and a probably irreversible change in industry structure will result. One qualification may be added to the preceding argument. In deciding whether or not to go above the limit price, the established sellers should count in favor of the former course any transitional extra profit they may earn after going above the limit and before entry becomes effective.¹³ This consideration has not been formally treated in the preceding model.

A fourth possibility is that average cost for the established seller(s) will lie above the limit price Q_aA at the output OQ_a , marginal cost lying above or below price. In this event price will presumably be set above the limit and entry attracted, provided there is some possibility of making profits at smaller outputs.¹⁴ The number of sellers in the industry then could not be stable until further entry had occurred.

Considering the various possibilities, there is a very good *a priori* chance on the assumptions drawn for the threat of entry to force a significant departure from what have been viewed as the conventional long-run monopoly-equilibrium price and output in single-firm monopoly or collusive oligopoly industries. It has been conventionally supposed that the single-firm monopolist will set a price such as to maximize long-run *industry* profit, and that collusive oligopolists will do likewise. It has been further suggested that this may result, at least in collusive oligopoly, in the attraction of entry to the point where excess profits are small or absent and the industry contains an excessive number of firms.¹⁵ But under the assumptions of anticipated entry and a response of entry to price, we see that, consistent with profit maximization *by firms*, the price in such industries may be lower and the output larger than would maximize long-run *industry profit*. A vigorous threat of entry which at an appropriate time is anticipated and forestalled, moreover, may serve to keep firms producing at outputs which give a fairly close approximation to optimum average costs. If the firms in an industry are so few that they would encounter serious diseconomies of scale in supplying the limit output, they may be unable profitably to forestall entry. But when the number of firms becomes such as

¹³ In a dynamic model, we might consider the possibility of a critical or maximum short period during which established sellers could temporarily go above limit price without attracting entry, returning price to the limit in time to discourage potential entrants.

¹⁴ In this case, however, the potential entrants presumably being able to attain lower average costs than established firms, it is doubtful that any price stratagem would forestall entry.

¹⁵ E. G. Chamberlin, *The Theory of Monopolistic Competition*, 1st ed., pp. 100-108.

to allow production of the limit output at near-optimum average costs, excessive entry may be profitably forestalled by limit-pricing policies and an economical adjustment of capacity to demand perpetuated.¹⁶

The preceding hypotheses are developed on the basis of certain crucial assumptions, of which the only really controversial one is that potential entrants to concentrated industries may be significantly influenced in their entry decisions by the prices set by established

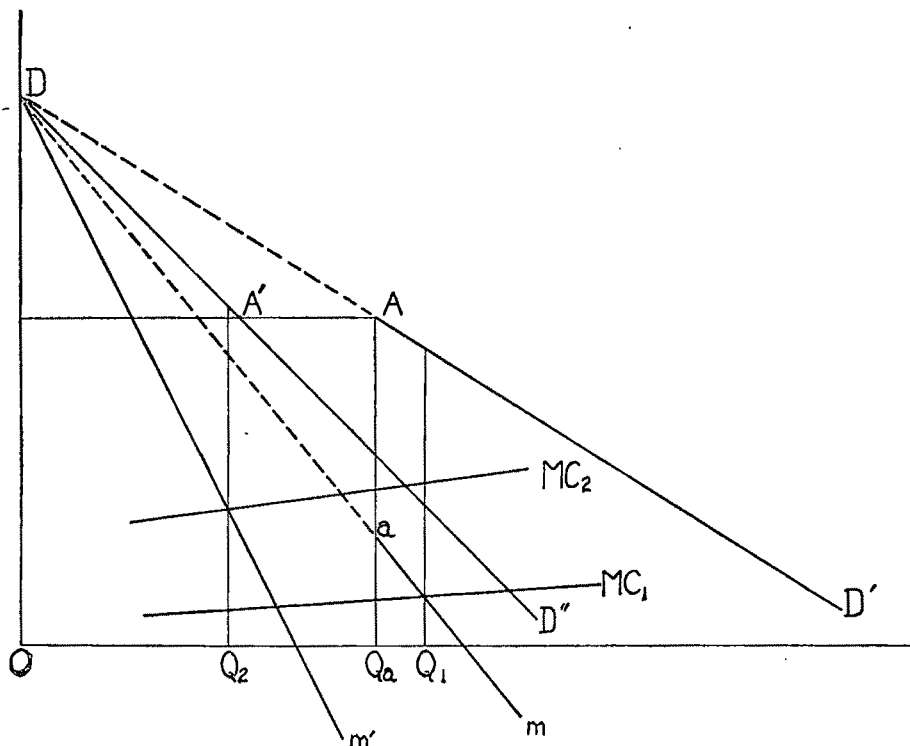


FIGURE 2

sellers. This assumption may or may not find extensive empirical support. But the observed price policies in a considerable number of oligopolistic industries with apparently effective collusion on price are consistent with hypotheses developed from the assumption, and we may have a thesis of real explanatory value.

The model discussed above also rests on the assumption that the established seller(s) are uncertain of the rivalry which will exist if

¹⁶ It is of course evident that if once an oligopolistic industry gets an excess number of firms—whether because the threat of entry is overlooked, or because the limit price fails to forestall entry, or because industry demand declines—then there is no evident force which will eliminate firms and give such a good adjustment. But it nevertheless holds that excessive entry *may* be deliberately forestalled in the manner described.

new firms enter the industry. Its conclusions are not essentially modified, however, if we assume instead that the established seller or collusive sellers contemplate effective collusion with any new entrants. If this is assumed, together with the assumption of a determinate industry demand curve and an anticipated lump of entry above a given limit price, the analysis develops as follows. The long-run industry demand curve is DAD' (Figure 2) and the marginal revenue drawn thereto is Dam , as before. Similarly the limit price is Q_aA ; above it the demand for the output of the established seller(s) is not DA , and the marginal revenue segment Da cannot be exploited by the established seller(s). If the established seller(s) go above the price Q_aA or below the output OQ_a , however, the resultant entry does not render the demand for their outputs indeterminate, since effective collusion with any entrant is contemplated. Presuming that the market share going to the entrant under such collusion is calculated, the established seller(s) anticipate a determinate loss of the total market volume to the entrant at each possible price. Then if they raise or attempt to raise long-run price above the limit, the anticipated long-run demand for their output becomes some determinate curve DD'' , lying to the left of the industry demand curve by distances representing the share of the industry output an entrant would obtain at various prices. The corresponding marginal revenue is Dm' .

As an approximation we may say that the established sellers' demand function is discontinuous horizontally, made up of the segment AD' below the price Q_aA and the segment $A'D$ above that price. This is not precisely accurate, however, since the attempt by established sellers to charge more than Q_aA , involving attraction of new entry, might result in a collusive equilibrium price *after entry* which lay below Q_aA . The curve DD'' thus can have a meaningful price range which overlaps that of AD' . The diagram may therefore be read as follows: the established sellers can in the long run sell any of the price-output combinations on the line AD' (the quantities OQ_a or larger) without attracting entry. If they go above the price Q_aA , or attempt to, they thereafter in the long run can sell any of the combinations on the line DD'' , with the remainder of the industry demand going to a new entrant or entrants. In effect, the established seller(s) are given the choice between the truncated industry demand curve AD' for exclusive exploitation and the non-truncated share of the industry demand curve, DD'' , for exploitation *via* collusive agreement with the new entrant.¹⁷ The AD' and DD'' curves adequately compare the revenue alternatives of the established seller(s) with

¹⁷ The latter curve might also be truncated at a higher level due to an additional threat of entry, but we will focus attention here on a single increment of entry.

and without entry, so long as we neglect any transitional extra profit which the established seller(s) might enjoy while raising above Q_aA but before entry became effective. If such a transitional profit is significant, it must be considered as augmenting that long-run average profit which is obtainable by exploiting DD'' after entry.

If we place the long-run marginal cost of the established seller(s), as previously defined, against this demand complex, conclusions generally consistent with those already developed emerge. Suppose that the marginal cost of the established seller(s) lies at MC_1 , so as to intersect industry marginal revenue in the range am , where price can be below Q_aA . Provided that total profit at the output OQ_1 , determined by the intersection of MC_1 and am , is positive and exceeds profit at the intersection of MC_1 and Dm' , the established seller(s) will produce OQ_1 , charge a corresponding monopoly price below Q_aA , and maximize industry profits without attracting further entry.

Suppose instead that the marginal cost lies at MC_2 , so as to lie above industry marginal revenue at the limit output and to intersect the marginal-revenue-after entry, Dm' , at an output, OQ_2 , which gives a price above Q_aA (average cost being less than Q_aA at OQ_a). The established firm(s) can supply the entire industry demand OQ_a at the price Q_aA , or part of the industry demand, OQ_2 , at a higher price. They will choose between these discrete alternatives by comparing *the lump increment to total revenue* with *the lump increment to total cost* which are incurred in moving from OQ_2 to OQ_a .¹⁸ If the revenue increment exceeds the cost increment (the area under MC_2 between Q_2 and Q_a), they will produce at OQ_a , sell at Q_aA , and exclude entry. The profits of the industry will not be maximized, but those of the established seller(s) will be. This holds for MC_2 in successively higher positions until the cost increment exceeds the revenue increment between Q_2 and Q_a ; even production at OQ_a with marginal cost above price is possible. When the lump cost increment exceeds the lump revenue increment, price will be raised above Q_aA and entry will be attracted. (Average cost must of course always be covered at the best output or exit from the industry will occur in the long run.)¹⁹

¹⁸ This lump increment to revenue if the limit output is chosen (as aggregated over all future periods) must be considered as reduced by any transitional extra profit receivable after raising price above the limit but before entry becomes effective.

¹⁹ The general conclusions also hold if the marginal cost lies so as to intersect Dm' where price would be below Q_aA , and to lie above industry marginal revenue at OQ_a . The limit output will be produced and entry excluded so long as the revenue increment exceeds the cost increment between the alternative outputs. In this case we have the situation that collusive price after entry would lie below the limit price which should presumably attract entry. If we remember that the limit price is not necessarily the minimum which entrants expect after entry, however, this situation is not necessarily anomalous.

On the supposition of collusion after entry, we thus arrive at conclusions regarding price similar to those developed when assuming uncertain rivalry after entry. It may be objected, of course, that if established sellers assume collusion after entry, and potential entrants assume it too, then these potential entrants should not be much influenced by the current prices of established sellers, and that a limit-price analysis is thus implausible. It becomes plausible evidently only if potential entrants are quite uncertain about industry demand and about how they will be welcomed by established sellers. But such an incongruity of attitudes is itself not implausible, and the model just developed may thus constitute a realistic variant of our first model.

In summary, a considerable elaboration of the theory of monopoly and collusive oligopoly price may be implied if we assume that potential entrants to an industry are influenced by the going prices therein, and that established sellers anticipate and, if it is profitable, forestall entry. Assuming correct appraisal of limit prices by established sellers, we get three major possibilities: (1) pricing to maximize industry profit with no entry resulting; (2) pricing to forestall entry with industry profit not maximized but the profit of established sellers maximized; and (3) pricing to maximize industry profit but with resulting attraction of additional entry. The first two cases find industries already in long-run equilibrium; the third finds industries in process of dynamic change in structure.

Extensions and Applications of the "Limit-Price" Analysis

The limit-price models just developed, tracing the effects of a sort of oligopolistic interdependence between firms already in a concentrated industry and potential entrant firms, are essentially variations on the general theory of oligopoly price. There is an apparent similarity of the construction to the familiar kinked demand curve analysis, but in the present case the average revenue as well as the marginal revenue is discontinuous, and it is a revenue function for all firms already in an industry rather than that for a single oligopolist which is so affected. The limit-price analysis applies to collusive oligopoly behavior, whereas the kinked demand curve model refers explicitly to the action of a firm in non-collusive oligopoly. And the essential conclusions of the two models are of course different.

Various extensions of "limit-price" reasoning suggest themselves. Thus some firms established within an oligopoly may hold price down for fear of "fattening" their smaller rivals sufficiently to encourage their expansion. Departing from the realm of pure oligopoly, established collusive firms might extend selling costs beyond the point of industry profit maximization in order to discourage entry, so that

the threat of entry could cause increased costs rather than reduced prices. The model developed above could also be elaborated to take explicit account of dynamic changes, of varying time lags involved in the "gestation" of new entry, *etc.* Any extensions along these lines might contribute to a more realistic theory of oligopoly price.

The explanatory value of the limit-price hypotheses of course remains to be determined. On *a priori* grounds they appear to be fruitful, although alternative explanations of observed "low-price" policies may also be valid. Some systematic empirical check of the extent of "limit price" thinking within concentrated industries, and especially by price leaders, would seem desirable. Direct verification of the crucial hypotheses from *ex post* statistical results, however, would be difficult. The "limit price" in any industry, even if recognized, must change over time in response to variations in industry demand, in factor prices, in the availability of capital to potential entrants, in the age of the industry, and so forth. The single limit price of our static long-run analysis becomes in fact a dynamic variable, and would have to be treated as such. It would be difficult to establish in a strictly objective fashion, and knowledge of its recognition by sellers or of its magnitude might best be gained through interview techniques. It would be somewhat easier, on the other hand, to check observed price results for consistency with the hypothesis, without relying on the subjective impressions of sellers involved. That is, objective calculations of the probable limit price (or time series of limit prices) could be made for any industry, and the prices actually charged in a supposedly collusive oligopoly could then be compared both with such limit prices and with prices calculated to maximize industry profits. Wherever behavior consistent with the hypothesis was found, direct investigation of policies of price calculation might be indicated. The emphasis often placed on non-profit motives, uncertainty, irrationality, and oligopolistic rivalry as explanations of low-price policy in concentrated industries may be unduly heavy, and the effects of threatened entry seem certainly to deserve consideration.

THE STATE OF THE "NEW ECONOMICS"

By HOWARD S. ELLIS*

The general conclusions to be drawn from a newly published volume of essays on *The New Economics*¹ seem to be that Keynes has influenced economic theory and policy as has no one else, living or dead; that much of his influence is beneficial; but that much, if indeed not most, of the theoretical innovations of the *General Theory* are acceptable only with extensive reservation or unacceptable as descriptions of reality. The subtitle of the volume to be reviewed correctly stresses Keynes' *influence*, and the main title the novelty of his positions. The only misleading feature may be the juxtaposition of the subtitle with the phrase "*the new economics*." For it is amply evident, if one compares certain appraisals of the *General Theory*, written ten or twelve years ago and reproduced here, with the essays written for the present collection,² that the former proclaimed the new doctrines confidently and without qualification, but that the latter—as we shall see—generally present more qualification and addition than original substance. How much Keynes contributed in his last major book depends on whether one stresses the *impulse* toward new ideas and new lines of investigation, or, on the other hand, what he actually *held* in the *General Theory*. Thus Professor Hansen says: "Keynes, however, contributed greatly to the theory of the rate of interest. As a result of his analysis we now place less emphasis than formerly on the rate of interest as a means of increasing the volume of investment" (p. 138). In other words, although Keynes put interest at the very center of his theory, he "contributed greatly" because we now recognize the limited efficacy of interest rates. On the other hand, Leontief rather more candidly writes in general appraisal of Keynes: "He seemed to press, however, for reconstruction of the whole foundation in order to mend a leaky roof" (p. 242).

Furthermore, even so far as concerns the *impulse* to new ideas, one has to consider the contributions made by Keynes' contemporaries, pre-eminently D. H. Robertson—contributions too frequently attributed in the current literature simply to Keynes alone. A re-reading of the Macmillan report, for example, reveals the extent to which Keynes' ideas were anticipated by Robertson.

The New Economics is set together from ten chapters and a Keynes bibliography contributed by the editor, seventeen items available from earlier sources, and nineteen essays (beside the editor's) written for the occasion. For one not conversant with the literature it would be difficult to identify new and old, since no indication of old sources is given in the main text;

* The author is professor of economics at the University of California, Berkeley.

¹ *The New Economics—Keynes' Influence on Theory and Public Policy*. Edited by Seymour E. Harris. (New York: Alfred A. Knopf. 1947. Pp. xxii, 686. \$4.50.)

² Not including those written by the editor.

instead, acknowledgments are made all together on page viii, and reprinted items frequently appear under somewhat altered titles. The present review will not concern itself systematically with either the editor's chapters, or with those reproduced from elsewhere. So far as concerns the former they are intended to "summarize, integrate, and fill in some gaps," but it is doubtful whether this is an appropriate description. So far as concerns the latter, it is convenient to have included Keynes' proposals and addresses pertaining to the Fund, Bank, and British Loan, and also such early systematic explanations and espousals of the *General Theory* as Lerner's, Harrod's, and Meade's. Early restatements which were coupled with largely adverse criticism have not been included, as for example: Hansen in the 1936 *Journal of Political Economy*, Leontief, Robertson, and Viner in the 1936 *Quarterly Journal of Economics*, and Pigou in the 1936 *Economica*. Since these articles include many points of continuing validity, they would have furthered the reader's appreciation of the character of the Keynesian influence.

But the older articles included are well worth renewed attention; and, of the newly written essays, not more than two or three represent net subtractions from the sum of human knowledge, a number offer careful reviews of the content or evolution of Keynes' own thinking, and several contribute very significantly to particular subjects. Taken as a whole, the volume thus attains a quite high average, and Professor Harris might justifiably regard it as the high point of his career as editor. Academic economists will profit, as the reviewer has, not only by studying the book, but also having it available for student use. What, specifically, do the new essays offer?

Amongst the first of these essays are two by Professor Hansen, of which the first is moderate in tone and not particularly striking. Keynes contributed, he says, to the realization that a capitalist system does not tend automatically to sufficient effective demand; and since Hansen also stresses the error of making too sharp a dividing line between pre-Keynesian and Keynesian economics, he would probably not wish to imply that insufficient demand was not a major concern of "business-cycle" theorists prior to Keynes. Keynes also emphasized the dependence of many economic variables upon income, the unreliability of wage-reductions to extend employment, and the possibility that increasing liquidity may not increase consumption. In these points Hansen seems to set forth matters of fairly common accord. But if the consumption function represents Keynes' main contribution, as Hansen maintains, he fails to explain why it is so. He says (p. 137) that this function (*via* the multiplier) supplies the missing link in the reasoning by which "current realized income . . . is less than the normal or full-employment income by the amount that current investment falls below the potential saving at full employment." This sounds very much like the "Fundamental Law" and seems to link unemployment to higher savings as income expands. And yet, so far as concerns secular developments, Hansen very clearly denies the multiplier (consumption function) direction of causation from consumption to level of income and maintains the opposite: "the rising standard [of

consumption] follows the rising income, not the other way around." Is the reverse true for the short run?

Having taken pains in the first essay to demonstrate that a fall of the *rate of interest* does little to expand employment (p. 139), and having emphasized that increased liquidity may be relatively ineffective (p. 151), Hansen reverses himself implicitly when in a second essay he says of money wage reductions: "That so clumsy a method of *securing a low rate of interest* and a relative increase in liquid assets should command the attention of able economists in a modern society equipped with a stream-lined central banking system is a mystery which I am unable to solve" (pp. 201-2, italics mine). Is the system "stream-lined" because its low interest rates have no significant result? In this chapter also there is a long and confused footnote in which Hansen apparently objects to anyone's saying, even if one uses Robertson's periods, that if "excess savings" were tapped and invested, income would not fall. In Robertsonian terms, if savings exceed investment, hoards increase (or bank-loans are repaid). Hoarded sums are by no means limited to current hoarding, as Hansen implies, and current hoarding, by the conversion of illiquid assets into liquid assets, is by no means limited to current income, as he also implies; in a depression, hoards are not apt, therefore, to be "extremely small," as he states. Contrary also to his contention, "idle funds" are quite properly described as an evil. In depression, they are the outgrowth of liquidity preference; and in the postwar period (in which the idle funds stemmed from wartime rationing and not "preference" in any significant sense), they have confronted the various countries with the alternatives of continued controls with suppressed inflation, or of actual inflation. Professor Hansen's miscarried originality when he attempts to think in terms of velocity and cash-balances does not lend much effect to his immoderate language in characterizing this approach as a "curious contraption from the horse and buggy stage" (p. 201).

General appraisal of Keynes' work as a whole and the *General Theory* specifically is essayed also in newly written but very brief papers by Harrod, Copland, and Tinbergen; and in more extended and noteworthy contributions by Haberler and Leontief. Harrod's short review of Keynes' chief works throws into a clear light the fact that "Whatever the final verdict on the *General Theory*, Keynes' greatness as an economist will not be questioned"; Professor Copland stresses the substantial influence of Keynes on public policy in Australia; and Tinbergen shows how readily Keynesian concepts fit into econometric analysis.

Haberler, Leontief, and, in a later context, Smithies are really the only contributors to the volume who attempt systematic criticism of the pure theory of the *General Theory*; and their essays are amongst the best for theoretical acumen. Haberler says (as the reviewer has long believed) that "Keynes' great contribution was that he strongly emphasized the income factor and used it much more systematically in the analysis of economic change than had ever been done before" (p. 166). Aggregative analysis had already been successfully pursued by most business cycle theorists, before

1936, and the marginal efficiency of capital analysis follows conventional lines. Liquidity preference theory, which had been substantially advanced by the *Treatise*, suffered a setback in the *General Theory* by virtue of its making the actual holding of idle balances (L_2) solely the result of anticipations of a *rise* in interest rates.³ Haberler questions the realism of the idea of under-employment *equilibrium* and adumbrates future lines of analysis which will prove more fruitful than the static equilibrium device. At bottom the Keynesian *impasse*, or under-employment equilibrium, rests upon (a) the possibility of absolutely elastic liquidity preference, or (b) highly inelastic investment propensities, both with reference to the rate of interest. In the short run, says Haberler, these do not produce equilibrium, but a progressive tendency of prices, wages (and also employment, I would add) to fall. Actually the short-run under-employment equilibrium would result from adverse *shifts* of Keynesian schedules in ways not covered by his system; and in the long run, the assumed unfavorable elasticities can scarcely be expected to persist. Haberler regards Keynes' refutation of Say's Law as killing dead horses: "hardly any neo-classical economist who ever wrote on money or the business cycle thought that Say's Law did hold in reality" (p. 174). In sum, though the *General Theory* is a new milestone, it does not constitute a revolution of economic theory. A contrary impression might be conveyed by the "excessive and untenable claims made by Keynes and his followers," and by the adherence of a socialist or radical wing. Haberler, however, believes that Keynes himself belonged to the opposed or liberal wing, and this judgment is reflected also in Harrod's essay (pp. 71-72).

Leontief concerns himself with the two principal differences between the classical and Keynesian systems: their divergent assumptions regarding the *supply of labor* and the *demand for money*. While the classical supply curve of labor is a function of *real* wage rates, Keynes' is a function of *money* wages, of perfect elasticity and with no labor forthcoming at a lower level, as would result from a minimum wage law. Unlike the classical function, which fits into the general framework of utility functions, Keynes' function is an arbitrarily assumed, exogenous element (pp. 233-37). To make it compatible with accepted ideas of utility or indifference functions in the field of value theory generally, one would need to reconstruct the Keynesian curve by making it depend on both relative and absolute prices and wage rates. Then *all other* demand and supply functions will have to depend on a price and wage-rate variable; and thus by increasing the number of variables necessary to explain a given phenomenon, the Keynesian approach becomes less general than the classical system. The disastrous consequence of this reconstruction is, however, that if *labor* is guided by the purchasing power of money income in bargaining for money wages, the Keynesian involuntary unemployment disappears. Thus the explanation appears for his "insistence on universal validity of an apparently quite special assumption," the horizontal labor supply function.

³ William Fellner has stressed the improbability of such anticipations in depression; cf. *Monetary Policies and Full Employment* (1946), Chap. V.

But even this special assumption would not produce involuntary unemployment if the horizontal supply line intersected demand at a wage equal to or greater than that required by the supply curve in real terms. If the intersection of the monetary labor-supply and labor-demand schedules rested below this level, both schedules could be raised bodily by reducing the purchasing power of money: involuntary unemployment would be eliminated.⁴ To prevent this outcome, Keynes introduces a theory of automatic hoards as the result of infinite elasticity of the demand for money with respect to interest. The price level cannot be raised because monetary injections will pass into idle balances, an assumption—Leontief might have added—required also by the Keynesian finite cumulative multiplier.

Proceeding from these general appraisals, *The New Economics* devotes separate parts to International Economic Relations, Economic Fluctuations and Fiscal Policies, Money and Prices, and Effective Demand and Wages, each of them including notable new essays. Arthur Bloomfield provides a scholarly summary of Keynes' positive contributions in his various books to exchange rate theory and their implications for the International Monetary Fund. Keynes undoubtedly induced a desirable scepticism with respect to devaluation as an infallible cure of deficits, especially in the short run; and it may be useful for certain purposes to regard "fundamental equilibrium" in the balance of payments as implying full employment in the home economy. Hinshaw's short chapter shows clearly that, though Keynes occasionally seemed to verge upon economic insularity, fundamentally and finally he held that direct intervention devices "will work better and we shall need them less, if the classical medicine is also at work" (quoted on p. 322).

The longest chapter in the book and certainly one of the most profitable is Ragnar Nurkse's analysis of "Domestic and International Equilibrium" (pp. 264-92). Substantiating a view expressed earlier in the present review that the outstanding merit of the *General Theory* is its dramatic emphasis upon income, Nurkse finds the great contribution of Keynesian economics to international trade theory to be its illumination of the income and employment variables in international equilibrium problems (p. 268). Indeed, since these variables were certainly important in the thinking of other economists than Keynes so far as concerns domestic fluctuations, I might hazard the guess that Keynes' ultimate contribution will prove greatest in international economic theory, which had been singularly preoccupied with the allocation of resources and price (rather than income) elasticities. Not much of the new economics under this subject appears in the *General Theory*, but the great impulse to the reformulation of international money and trade theory clearly proceeds from this quarter.

If "fundamental equilibrium" is extended to include full employment, Nurkse takes the necessary further step of including also an absence of price

⁴ Leontief might have pointed out that not only is this the necessary implication of the Keynesian supply function, but also that it is exactly what Keynes describes as the cure of involuntary unemployment in the formal definition of the concept; cf. *General Theory*, p. 15.

inflation or deflation (p. 272). He sharpens the new theoretical tools in a precise footnote on the relation of marginal propensity to import and income elasticity of imports (p. 270, n. 8); and he provides a good conceptual test of aggressive and justifiable commercial and exchange-rate policies. Carrying forward the emphasis of *International Currency Experience* upon the crucial importance of international currency reserves, Nurkse demonstrates the necessity of international cooperation to achieve high employment levels and international equilibrium. Like Hinshaw, he presents evidence that Keynes, unlike some of his extremist disciples, regarded currency rationing, bilateralism, protective tariffs, etc., as temporary and unwelcome expedients: basically he was "the true internationalist among modern economists" (p. 285).

In view of the central problems of the *General Theory*, it is appropriate that the editor evoked for "Economic Fluctuations and Trends and Fiscal Policy" six new essays, the largest number in any part. Albert G. Hart, dealing with "Keynes' Analysis of Expectations and Uncertainty," points out that the *Treatise* introduces anticipations only on special occasions, while the later book makes them central to all economic decisions. Specifically, Hart regards as substantive contributions: the speculative motive for holding money, the analysis of forward markets (in the *Treatise*), the marginal efficiency of capital as a psychological phenomenon, and role of "animal spirits" in entrepreneurial decisions. On the other hand, he finds that Keynes confused *ex ante* and *ex post* values, neglected short-term expectations (?), failed to appreciate differences of degree in liquidity of assets, and utilized the dubious device of reducing true contingencies to certainty equivalents. Hart concludes with a warning to followers of Keynes against neglecting the increase of business uncertainty which may attend economic intervention.

In discussing "Declining Investment Opportunity," Alan Sweezy reviews the evolution of the thesis and offers some reasonable objections to crude misinterpretations. To test the thesis formally, however, he proposes a model in which "there are no new inventions, no shifts in demand, no new resources to exploit; in short, no outlets for investment except in providing more equipment of existing types and more working capital for the increment of population" (p. 433). Sweezy regards this model as one designed "to simplify the problem." But actually in the phrases before the semicolon, he selects imaginable though improbable circumstances most apt to result in stagnation of investment. On a formal plane, however, he commits two errors even on this favorable terrain. In the first place, it does not require new inventions in order that capital be substituted for labor, and hence the "equipment of existing types" following the semicolon is a *non sequitur*. This is particularly striking since he himself envisages the outcome of his model to be a rise in real wages and a fall in "profits" (in the classical sense). Secondly, he represents the possible consequences of the fall of "profits" to an unsatisfactory level to be either reduced saving or the (indefinite) holding of savings in liquid form. The latter solution, however, would have to meet Hart's objection that "if the growth of cash relative to income is capable of affecting the propensity to consume in the slightest degree, it can generate experiences

which will justify raising estimates of money receipts from equity assets" (p. 421).

"Keynes and the Theory of Business Cycles," by Lloyd Metzler, presents the view that Keynes was responsible for refuting (1) "the usual assumption amongst more analytically minded economists . . . that the economic system tends automatically toward a state of full employment" (p. 438), and (2) Say's Law, which "leads to the conception of the economy as an unstable system *in which a slight contraction leads to further contraction*, and a slight expansion set off a cumulative upward movement" (pp. 442-33, italics supplied). Sufficient evidence could be marshalled, the reviewer believes, that the "more analytically minded economists" who considered the problem of business cycles prior to the *General Theory*, e.g., Keynes himself, Robertson, Pigou, Hawtrey, Schumpeter, Mitchell, and so on indefinitely, held neither (1) that the economic system tends automatically toward full employment, nor (2) Say's Law. This exercise will prove superfluous, however, if the author will reconsider his charge against the "more analytically minded economists" under heading (1), in the light of what he says about them under heading (2), and *vice versa*.

One of the most illuminating and judicious essays of the volume, on "Fiscal Policy," emanates from Gerhard Colm. While profoundly affecting the views of economists and legislators as to the virtues of a balanced budget, Keynes did not give exclusive attention to fiscal policy as a means of combating depression; and Colm himself believes that "flexibility in the Federal budget is limited," although "our legislative and administrative machinery is not yet fully equipped to use even this limited existing flexibility" (p. 464). For those who, like the present writer, would like to see the *first* (but not *last*) fiscal line of defense against inflation and deflation in direct variations in federal revenue, rather than in inverse variations in federal expenditures, it would pay not to lose sight of Colm's warning that "the multipliers applicable to a reduction in income taxes which are already nearer the maximum rate of progression is relatively small" (p. 465). This implies that combating inflation by *fiscal* (as opposed, say, to monetary) devices has to bear more severely on the low-bracket incomes. Colm believes that Keynes slighted cost-price relations as determinants of investment and consumption; "additional government investments can hardly be regarded as the most rational cure when excessive prices or costs [arising, he explains, from excessive monopolistic prices or too rapid an increase in wage rates] are the cause of a disturbance" (p. 457). As for the opposite extreme of fluctuation, "it may well be that the first recession after the postwar boom may be of a nature that requires first of all measures designed to adjust costs and prices in relation to incomes, rather than fiscal policies" (p. 467).

Whereas Colm believes that "there has been a growing recognition of the practical limits of a public-works policy as an anticyclical device" (p. 464), Benjamin Higgins, in an essay devoted to this subject, maintains that the *General Theory* has elevated public investment "from the rank of last line of defense to major offensive strategy" (p. 474). Keynes' *opus* despaired of

stimulating private investment, at least in the long run, and hence gave about coordinate importance to raising the propensity to consume and to public investment (pp. 474-75). Higgins, however, regards the former as more promising as a secular than as a countercyclical device, and hence concludes that "public investment is left virtually in sole possession of the field, when it comes to policies for offsetting fluctuations in private investment" (p. 476).⁵ With respect to leaf-raking varieties of Keynesian "investment," Higgins supplies an interesting proof that "the useful projects will have greater multiplier effects just by the value of the direct services they yield" (p. 479).

The last chapter devoted to fluctuations is by Richard M. Goodwin on the multiplier. This essay raises a substantial number of difficulties. Is it a fact that Angell gives the income velocity of *active* money a value around 3 per annum (p. 488)? If newly created money comes to be divided between active and idle in same proportion as prevailed before the injection, will not velocity remain constant (*cf. General Theory*, p. 306); or is velocity constant *only* if all the new active money is newly created money, and if there was no idle money before (Goodwin, p. 492)? The multiplier, telling "by how much the original injection is multiplied to obtain the final result" on income, gives "the typical life history of any dollar spent . . . from birth to death" (p. 484). If *any* dollar spent typically "dies," why are not *all* dollars sooner or later "dead"; or is it just the "injection," no more and no less, which dies? If, following the author's practice, all spending not out of *income* (consumption or investment from dishoarding or new money) is excluded from the multiplier, can we then say that "it is to the multiplier, not velocity, theory that one has to turn for the explanation of the variations [of income]" (p. 489)? A satisfactory treatment of the relationship between the multiplier and velocity should resolve these and a number of other difficulties involved in the essay.

The Part dealing with "Money and Prices" includes a single paper, contributed by John Lintner. This essay begins by contrasting the highly simplified monetary analysis current in this country during the first World War with the more sophisticated analysis of World War II, which proceeded from more advanced theory and the great boon of fairly complete national income statistics. Part of this advance in theory is attributable to Keynes, whose monetary analysis Lintner traces through the *Tract on Monetary Reform* (1923), the *Treatise on Money* (1931), and the *General Theory*. The *Tract* contributed a clear statement of the Cambridge cash-balance theory, but labored under the handicaps of: (1) tracing relations between money and prices on the assumption of constant output; (2) neglecting the precautionary motive for holding money; (3) lumping all groups of money holders together.

The *Treatise* eliminated the second and third of these limitations, considerably advanced the explanation of motives for holding money, and drew some illuminating distinctions between the behavior of various groups of cash-

⁵ It is not clear whether Higgins means this literally, including tax-structure, revenue reduction, cost-pure relations, etc., or only relatively to varying consumption.

balance owners. Indeed, the *Treatise* reached a plane of monetary analysis superior to the *General Theory* in a substantial number of respects. The *Treatise* laid weight upon *shifts* in liquidity preference, while the later book attempted pretty much to operate along a given liquidity function. The *Treatise* emphasized the dependence of idle balances on the yield of all types of earning assets, while the *General Theory* operates in the narrow confines of cash *vs.* bonds. While the later work treats all balance holders alike, the former distinguished forms and individuals. The *General Theory* must also be taxed with engendering confusion as to the necessarily-equal and not-necessarily-equal meanings of saving and investment.

What the *General Theory* accomplished, over the yield of earlier works, was the integration of output (income) variation into a general equilibrium system. Lintner believes that an analysis running in terms of liquidity preference, marginal efficiency, and the multiplier determined by the propensity to consume is a much more powerful apparatus than analysis in terms of "the one 'blanket' factor V" (p. 532). While I also would prefer three variables to one, I do not believe the alternatives are necessarily those thus stated. And who has, as a matter of fact, explained variations of output in terms solely of V?

We turn to the last group of contributed essays, consisting of two by Arthur Smithies and James Tobin. While the caption given to this Part is "Effective Demand and Wages," Smithies' paper really offers a succinct statement of the whole Keynesian and the contrasting "classical" system, and a general critique of the former. For comprehensive statement within economical confines and for genuine theoretical acumen, the essay is unrivalled. I shall not reproduce Smithies' reproduction of the Keynesian and "classical" systems but emphasize his critical and suggestive efforts "Toward a More General Theory." Taking the *General Theory* as a valuable achievement, he believes that it must be amended or broadened in the following respects. (1) Keynes' assumption of constant equipment must be revised to include a theory of the optimum rate of accumulation; and his assumption of constant techniques must give way to a theory which recognizes substitution of factors. (2) Keynes omits consideration of the adjustment *vs.* the equilibrium effects of changes in effective demand. (Technological unemployment would afford a good illustration.) (3) His assumption of perfect competition lets the following possibilities escape attention: that, with decreasing costs under monopoly, employment and real wages can both increase *within a range*; that reducing monopoly restriction may increase both employment and real wages; and that bilateral monopoly between labor and business may produce a full-employment dilemma. (4) The Keynesian assumption that real income and employment are determined independently of wages and prices ignores that as the latter rise, progressive income taxes give a revenue increase proportionally greater than the wage-price advance, and the fixed money commitments (interest, etc.) produce an expenditure increase which is proportionally less. (5) In an economy with mobility of resources and the price of imports and exports established in world markets, *money* wage rates would determine real wages and employment. Keynes' contrary conclusions

rest upon his assumption of a closed economy. The theoretical reconciliation of these two possibilities with Keynes' opposition to restrictive commercial policy has not been worked out. (6) Aggregative theory neglects the whole yield of "classical" theorizing as to the bearing of relative wages and prices and the allocation of resources upon output and employment as a whole. (7) Dynamic factors exogenous to the Keynesian theory require recognition and elaboration: the wage increases of 1937 contributed to the subsequent depression; low profits may influence plans and later investment rates; consumer demand may not be a function of current income alone, but also of expectations as to future prices, etc. In sum, "the *General Theory* is a most constructive tool for those who are aware of its limitations, but a dangerous one for those who ignore them" (p. 569).

Finally, we must consider all too briefly the brilliant essay by James Tobin on "Money Wage Rates and Employment." Like Leontief, Tobin argues that Keynes is wrong in representing the volume of employment as independent of money wages. Both would apparently agree that the Keynesian position is wrong (1) if *all* factors including labor are supplied with reference to the purchasing power of money, or (2) if they *all* are equally victims of the "money illusion" and bargain solely in money terms. Leontief argues that a real calculus is probable for all factors, whereas Tobin believes that there are good reasons for supposing that labor bargains in money terms (p. 581) and for the same supposition for other factors (p. 582). Since it is a lack of homogeneity on this score which Keynes' position requires, both agree in the final outcome. Furthermore, both agree that real consumption cannot be uniquely a function of real income, as Keynes would have it; Leontief would say, because consumers look beyond prices, as all factor owners do; Tobin would say, because consumers do not look beyond prices, and all factors do not (pp. 583-85). Here again both agree that the Keynesian position on the consumption function cannot be maintained if a "homogeneous" assumption is maintained with regard to attitudes toward money and real values. Tobin elaborates still further reasons for rejecting the Keynesian position and summarizes his case under six possible channels through which money wages can affect employment: (1) business confidence; (2) the balance of trade; (3) the demand for cash balances; (4) induced substitution of labor; (5) demand for consumption goods; and (6) redistribution of income. Of these, Leontief does not treat (1) and (6), explicitly argues also on the basis of (3), (4), and (5), and implicitly includes (2).

A laborious notation of every omission, every misconceived statement, every example of over- or underestimation of importance, and every wrong assessment of the facts would make a formidable array against almost any economist, even those of greatest stature. Thus Keynes' tendency to belittle his predecessors and even to misrepresent their views has undoubtedly damaged his own reputation. His lashing out against Say's Law makes him seem ignorant of the fact that it was not designed by its author to shed light on economic fluctuations, and was not so employed by his own immediate predecessors. His own confusion as between *ex ante* and *ex post* led to a

breakdown of reasoning in crucial passages in the *General Theory* and precipitated much blood-letting, when a clear statement of these contrasting (and reconcilable) views of saving and investment had been worked out by Myrdal, Ohlin, and other Swedish economists several years prior to the publication of Keynes' book. Involuntary employment is formally defined in terms of what Keynes thought to be a remedy; and the abstruseness of the language concealed the fact that this remedy was the Machiavellian device of watering down wages by inflation.

All of these are side issues. The significant question is: what in the *central theoretical body* of the *General Theory* now survives in a fairly intact form? The present volume gives additional evidence that a number of its most central ideas have been abandoned or reformulated to a state almost beyond recognition from the original. This holds true in pre-eminent degree of the thesis that a change in money wages cannot alter employment. As a matter of fact, the ways in which it *can* alter employment are so numerous as to cause the thesis to be altered to the form that wage-reduction cannot in many instances be relied upon to extend employment because the multiplicity of possible reactions makes the outcome obscure. By parity of reasoning, in some situations with a few conspicuous variables, the outcome (either way) might be predicted. This is no longer Keynes.

Much of the plausibility of under-employment equilibrium (or of an automatic *impasse* in the capitalistic system) came from Keynes' making L_2 ("speculative" balances) a function solely of anticipations as to the rate of interest. But in a depression people would behave irrationally if they expected interest rates to rise and if for this reason they absorbed money indefinitely. It is now definitely established that expectations as to capital *yields* are more important than expectations as to capital *costs*; and hence the holding of idle balances answers to all the multiplicity of forces usually discussed under "the lower turning point." This outcome is, again, quite alien to the few variables of the Keynesian system; and it may undermine the idea of under-employment *equilibrium* even with the introduction of substantially more variables.

It is usually said that Keynes' "marginal efficiency of capital" is the traditional productivity theory with the needed addition of emphasis upon anticipations. Actually, Keynes altered the productivity theory very radically, and in a direction favorable to underemployment (of capital or of labor, whichever suited the occasion), by the assumption of fixed techniques. Several authors in the present volume point out the arbitrariness of this assumption past a very short run. Thus another factor in addition to flexible real wages is rehabilitated from the "classical" limbo to permit factor substitution and equilibrium.

A fourth respect in which current judgments, reflected in the present volume, run quite counter to the central core of the *General Theory* pertains to the significance of the cost-price structure for such aggregates as output, savings, and employment. The central Keynesian system of five large variables has no place for the bearing of allocation of factors as it occurs in such manifold forms as the tax structure, the directions of public expenditure,

the role of monopoly *vs.* competition, the effect of inflation and deflation on productive efficiency, etc. Thus, much of the valuable yield of "classical" economics, business cycle theory, monetary theory, and the analysis of taxation is shut out in the particular macro-economic system of the *General Theory*. It is really far short of generality.

With the noteworthy exception of the consumption function (and multiplier) yet to be considered, the preceding points cover the formal Keynesian theorems. It is, I believe, not unfair to say that, however great the impulse given to economic theory by Keynes—and this beyond dispute—the formal theorems have been rejected or extensively modified. What then of the positive theoretical yield? Are there gains which would be as generally accepted as the corrections and negations appearing in *The New Economics*; and how important are they? I will not attempt to select "the" great contribution, for there are several and only the future will reveal their relative importance: the macro-economic approach, the effective introduction of income as a variable of primary importance, the degree to which interest rates respond to monetary forces, the effective demand aspect of wages, the possible miscarriage of savings. Some of these are matters of emphasis rather than theoretical discovery, but the emphasis virtually amounted to discovery. In the aggregate this is a very great yield, enough to support Keynes' reputation, great as it is, and great enough without effort to justify his errors.

Of the central theoretical core, virtually the only innovation which seems to meet with general acceptance is the consumption function (sometimes with, sometimes without, reference to the related multiplier). Harris regards it as an outstanding contribution (p. 26), Hansen as "epoch-making" (p. 135), Samuelson as vitally important (p. 159), Tinbergen and Higgins, as Keynes' main contribution (pp. 222, 564); and Haberler, while expressing the opinion that it is "overworked" and too rigidly formulated, thinks it represents a salutary shift of emphasis toward income (p. 166). Only Colm raises a note of scepticism, holding that the consumption function is less reliable for *predictions* than "sample studies of business and consumer attitudes" (pp. 460-61), an opinion expressed outside the present volume by Smithies.

But what is the consumption function? None of the writers just referred to defines or describes it, incidentally to bestowing praise. Hansen, indeed, explains that both the configuration *and* the shifts of the consumption function depend on income (pp. 138-39); and Tinbergen suggests that individual consumption expenditures are functions of "individual incomes, a number of price variables, the size of all families involved; and, perhaps, other factors" (p. 223). But it is not easy to see how these explanations illuminate the character of the function in most of the explanatory values assigned to it. Indeed, the consumption function seems to resemble the Holy Ghost: a derogatory attitude toward it is the ultimate sin, but precise information about it is hard to come by. Keynes' own statement of its properties, as given on page 190, follows: "It simply amounts to saying that an increase in income will be divided in some proportion or another between spending and saving, and that when our income is increased it is extremely unlikely

that this will have the effect of making us either spend less or save less than before." From these descriptions it is not clear how the consumption function, as Professor Harris says (p. 52), "helps to explain why all goods produced are not sold (as suggested by Say's Law); the declining marginal efficiency of capital; the theory of secular stagnation (Sweezy); the independence of changes in wage rates and employment (Tobin); the theory of the trade cycle (Metzler)."

Each of these may be the subject of some justifiable scepticism. Thus, (1) the failure of goods to be sold, a cyclical phenomenon, was coupled by Keynes himself with a collapse of the marginal efficiency of capital; and since *ex ante* investment more than makes up for the gap between income and consumption, it does not seem possible to derive a downturn from the lag of consumption except by appeal to the acceleration principle—but this is not the consumption function. (2) The declining marginal efficiency of capital could be explained by the consumption function only on the assumption of some "necessary" relation of investment to consumption. There is no such necessary relation; and Keynes himself, as Lintner emphasizes in the present volume, made fluctuations in autonomous investment, both in the *Treatise* and *General Theory*, to be the primary initiating cause of change (p. 523). (3) Statistical evidence does not suggest a secular decline of consumption relatively to income. But aside from this, the existence of "secular stagnation" is still a moot issue, as well as its theoretical foundation. In passing, Hansen did not appeal to the consumption function in his own explanations of stagnation. (4) This point may be dismissed, since Keynes did not connect the neutrality of money wages as to employment with the consumption function, and Tobin argues for the *dependence*, not independence as Harris says, of employment on wages. (5) The cyclical role of the consumption function is an involved issue. Some indication of the divergence of views on this subject may be gathered from a contrast of Metzler's belief that the upper and lower turning points are *explained* by the consumption function with Bean's view, which emphasizes "the business cycle in addition to disposable income as a *factor in determining* consumer expenditures (italics supplied)."⁶

The new economics, undoubtedly inspired by the influence of Keynes, is making rapid strides; but the rapid strides are fast leaving the *General Theory* behind. There has been a glorious revolution but, after the way of revolutions, it has both its glorious and its ignominious sides.

⁶ Louis H. Bean, "Relation of Disposable Income and the Business Cycle to Expenditure," in "Five Views on the Consumption Function," *Rev. Econ. Stat.*, Vol. XXVIII (Nov., 1946), p. 207.

EQUILIBRIUM OF THE FIRM

By RICHARD A. LESTER*

The articles by Professors R. A. Gordon and L. G. Reynolds in the June, 1948 issue of this *Review*¹ contribute considerably to clarification and resolution of some of the issues in what has come to be known as the "marginalist controversy." This note will be confined to comment on three matters discussed in those articles, *viz.*, the character of marginal variable costs, the nature of demand to the firm, and long-run goals of business management. They are all involved in a consideration of equilibrium of the firm.

I

On the assumption that a horizontal labor supply curve and constant supply prices for materials are the most common conditions, Professor Reynolds believes it "reasonable to expect constant marginal cost as the typical situation."² He suggests that my results indicating that business executives seem typically to think in terms of a downward-sloping, marginal variable cost curve up to designed capacity of the plant may be due to the possibility that the reporting executives included in their estimates certain groups of "semi-variable costs" such as "indirect labor." Undoubtedly many of them did.

In considering this question it is helpful to distinguish between changes in marginal variable cost that accompany (1) a decline in the scale of plant operations, (2) an increase in the scale that only involves more employment within the normal work week for employees that have continued to work or the re-employment of employees who had been laid off but a short period of time, and (3) an increase that necessitates the hiring of new employees, the recall of employees away from the job for a considerable period, or the purchase of additional overtime hours.

Plants are ordinarily designed and equipped so that at (or possibly even slightly above) capacity operations³ there should exist the most efficient flow

*The author is professor of economics at Princeton University.

¹ "Short-Period Price Determination in Theory and Practice," pp. 265-88, and "Toward a Short-Run Theory of Wages," pp. 289-308.

² *Loc. cit.*, p. 295.

³ Businessmen generally seem to think of plant capacity in physical terms, as equipment capacity with full-crew operations at some given standard, usually a level of achievement attained a number of times in the past and somewhat short of maximum conceivable output under ideal conditions with full-crew operations. It is the output for which the plant and equipment were designed, assuming some "normal" rate of efficiency and the regular number of shifts. That is the concept used here. Admittedly it is not as exact as one would desire. Presumably plant capacity so defined would vary somewhat with operating conditions such as the quality of materials, the product-mix, and the extent to which maintenance is temporarily deferred. Businessmen do not appear generally to think of capacity in the theorists' terms of the low point of the total unit cost curve, which would

of materials, the most effective use of transport and other services, the best runs of a production item, and so forth. A general reduction in the scale of operations below capacity would usually mean more time on set-up operations per unit of output with shorter runs, transfer and less effective distribution of personnel (probably according to the seniority provisions of a labor agreement), and, often, reduced employee morale and perhaps output restriction to make the job last, as the result of lay-offs and part-time work.⁴ Consequently, the direct labor cost per unit of output would be likely to rise. Other less direct costs per unit of output would also tend to increase, such as the employer's unemployment-compensation tax rate under experience rating and his outlays for employee welfare or benefit plans per dollar of payroll. Furthermore, reduced plant output, if significant in size and continued any length of time, would mean smaller quantity purchases of electric power, materials, and parts, which usually would be at higher unit prices and at higher unit transportation and handling costs for supplies. Shorter runs are generally at higher unit costs for the parts supplier.

Although there are good grounds for believing that increasing variable unit costs frequently accompany a required reduction in the scale of plant operations below capacity (especially under a union contract with seniority governing lay-offs and transfers and with superseniority for shop stewards), not all of those grounds apply with equal force in the opposite direction. That is true even for an increase in operations toward plant capacity that would involve only reducing part-time employment or recalling recently laid-off employees. In the latter case, for example, numerous transfers of workers under the seniority provisions would undoubtedly be required, and one could hardly expect employee morale to increase above normal by as much as it might decline with curtailed operations. Also, with such matters as employee transfers and morale involved, the time element becomes significant. Unit marginal cost may be somewhat larger immediately after the reduction or increase in scale of plant operations occurs from what it would be after the reduction or increase had been in effect for a period of time. The dynamic aspects of unit variable costs are a relatively unexplored area.

II

The authors of the two articles point out that in the short run the businessman is more concerned with sales estimates at a given price than he is in the shape of the demand curve at any particular moment,⁵ and that over short

vary with the character of the labor force, overtime and other provisions of labor agreements, etc.

⁴ The method of wage payment might make some difference. To the extent that hours of direct labor are paid at piece rates, labor costs would be constant per unit of output. However, even in piece-rate industries a considerable portion of direct labor cost in any one pay period will be paid for on a non-piece-rate basis (usually for work under non-standard conditions, for set-up operations and down-time, for new work before a piece rate is established, for jobs that do not lend themselves to the piece-rate method of payment, and for workers transferred from their regular jobs).

⁵ Gordon, *loc. cit.*, p. 277.

periods the scale of output is based primarily on anticipated movements of demand, which are largely independent of the employer's price decisions or current cost conditions.⁶ That is the point I have stressed.⁷ Professor Reynolds adds in a footnote (p. 305) that the kinds of estimates which businessmen actually make, such as expected sales volume, output, and level of unit costs, are probably best visualized as single points on the price-quantity diagram; as they do not seem to think in terms of continuous curves or schedules.

In a recent note,⁸ I discussed the absence of subjective demand schedules for firms that persistently conform to the price leadership of other firms or that produce items whose price remains unchanged for a number of years. For such firms, the selling prices of products are assumed by the management to be determined by factors outside the control of that firm. It is obvious that price-following firms and producers of articles with customary and constant prices do not frequently and seriously speculate regarding the elasticity of demand to the firm for each of its products. The terms "point demand" or "single-quantity demand" can be used to characterize subjective demand as visualized by a price follower or a fixed-price producer for a particular time interval. An executive in such a firm thinks in terms of the expected sales of each of his products distributed over time intervals, a certain total for the next week, month, or quarter, another total for the succeeding interval, and so forth, over the ensuing year or whatever his short-run planning period may be. For each interval of the planning period he anticipates a certain amount, or, less likely, his estimates may take the form of a range, with different probabilities for various areas within the range. Such interval estimates may, of course, be revised as experience indicates.

A demand curve cannot be derived by connecting the series of weekly, monthly, or quarterly point demands, nor can one consider as a demand curve a range of estimated possible sales for any one time interval, or the path of any alterations in the estimates of demand for a particular interval, or the difference between expected sales and later realized sales for a time interval.

It has been contended that, instead of a point, the demand to (say) a price-following firm should be considered to be a schedule in the form of a straight horizontal line at the given price and extending in both directions from the firm's estimated quantity of sales for a time interval. That, however, is unwarranted. It assumes that the management is thinking in terms of having orders in excess of expectations or of refusing to accept varying amounts of expected sales, which certainly would not be likely unless it was operating at or above the designed capacity of its own plant facilities and could not contract out the work except at a money loss or with some deterioration in quality of product. As businessmen aver, the management of each firm in a manufacturing industry strives to maintain or improve the firm's market

⁶ Reynolds, *loc. cit.*, pp. 297 and 304.

⁷ See, "Marginalism, Minimum Wages, and Labor Markets," *Am. Econ. Rev.*, Vol. XXXVII, No. 1 (March, 1947), pp. 138 and 148.

⁸ "Absence of Elasticity Considerations in Demand to the Firm," *Southern Econ. Jour.*, Vol. XIV (Jan., 1948), pp. 285-89.

position, usually measured by the percentage that its sales bear to total sales of the product in the markets where the firm is one of the suppliers. A management would not think of deliberately sacrificing its market position by refusing offered business; manufacturers have learned that loss of position for any reason, including lack of capacity in boom times, is usually difficult and costly to recover later.

From time to time a firm may, of course, change with respect to one or more of its products from a condition of point demand to some sort of schedule of demand and vice versa. The prices of even price leaders may be fairly fixed over short periods of time, such as a "season" or "model year." Manufacturers of such branded items as men's and women's clothing, household electrical equipment, automobiles, construction machinery, and numerous "catalogue" items, normally may not anticipate or consider any change of price during a period of at least six months to a year. Customarily the period of any price change for them may be only a minor fraction of the year, during which only one set of price changes occurs. For the remainder of the year, a condition of point demand may prevail.

The management of a firm may, when pressed by rising costs, shortage of liquid assets, or loss of market position, begin to consider the possibility or necessity of price cutting, including secret concessions from its quoted prices. Whenever the management begins to include the possibility of relative price changes on its part in its planning, it is, so to speak, shifting from point demand to some sort of demand schedule. Instead of price change, however, the management may seek to meet its difficulties by non-price means such as improved sales methods, shifting output between price and product lines so as to increase its sales in lines likely to be most favorable, redesigning its products, or reducing costs per unit of output by such means as improvement in the flow of materials and in the scheduling of production, better use and control of inventory, development of improved production methods and equipment, reduction in material costs of products through content changes, and simplification of paper work. The large possibilities of cost cutting and increasing income without price changes are common knowledge to persons well acquainted with industry but are generally neglected by theorists who reason in rigid, mechanistic terms and disregard human nature. If managements think in terms of making adjustments exclusive of price change, subjective demand for each item may continue to be of the point rather than the schedule variety.

III

The concept of point demand, in conjunction with decreasing (or even constant) marginal variable cost up to and beyond normal plant capacity, would seem to require significant revision of notions regarding equilibrium of the firm. It is doubtful whether business executives generally think, plan, or act in terms of a single equilibrium point, determined separately for each item of production.

One might assume that, under decreasing or constant marginal variable costs and point demand, equilibrium would be at the point of plant capacity.

On testimony of business executives that, however, is questionable. For example, Mr. Frank D. Newbury, former vice president and director of the Westinghouse Electric Company, states that an increasing total unit cost curve between 100 and 120 per cent capacity would be rare in mechanized industry because any increase in unit variable cost that was large enough to more than offset the reduced overhead per unit would be "extraordinary, and would represent inexcusably poor management."⁹

It seems likely that total unit costs are often fairly constant over a range of output, say from 95 to 110 per cent of plant capacity.¹⁰ That might be considered an equilibrium zone in the sense that, within that area, the firm's management would consider its operations satisfactory or reasonably profitable; it would not feel pressed to move outside the zone or to attempt to influence sales so that the firm would arrive at any particular point within the zone. Incidentally, firms will not normally offend respectable customers by rejecting their business, so that there is no regular stopping point beyond which the firm refuses business on the grounds that it is less profitable or even unprofitable. And, under point demand, it would not attempt to keep output at some "equilibrium point" through price manipulations.

In general, the area of satisfactory operations for a company would, on the vertical price scale, be somewhat above the total unit cost curve and, on the output scale, would lie within a range of high outputs. Of course the size and shape of such an "equilibrium zone" would vary from firm to firm and from time to time for the same firm. Whether a firm at any particular time was operating within its satisfactory zone would in large measure be determined by actual and expected demand for its products. Below and to the left of the satisfactory zone would be areas of progressively less satisfactory operations. Generally, a management's efforts both for greater sales and reduced costs would become more energetic, even desperate, the further the rate of production fell below its satisfactory range and also the more the firm was losing its position in various markets to competitors.

The discussion so far has concerned short-run equilibrium. It is proposed that for many companies and conditions the mathematical or mechanistic concept of point equilibrium be replaced by the psychological notion of current and prospective operations within a satisfactory zone. Temporary, short-run equilibrium positions or areas are conceivable outside the satisfactory zone, if the firm's management believes that it is doing the best it can under the circumstances, taking into account such factors as how the firm stands relative to its competitors, what financial pressures are affecting it, and conventions in the industry. For reasons of liquidity or strategy or for

⁹From correspondence and mimeographed material supplied by Mr. Newbury. In contending that total unit costs continue to decline well beyond plant capacity, he points out that plant capacity usually is not a precise figure and that maximum possible output is influenced by such factors as the physical capacity of the major equipment, the actual product-mix, shift and overtime arrangements, and the ability of management to correct bottlenecks as they arise.

¹⁰The possibility of operations at 110 per cent of capacity exists in part because of the definition of capacity adopted in footnote 3 and circumstances mentioned in footnote 9.

current lack of resources, the management may, for the time being, not favor engaging the firm in additional actions and expense to increase its share in the total sales of the industry, although continuing unabated and with an increased sense of urgency such activities as product research, planning to improve sales, and the search for savings in cost.

Some brief comments now on long-run equilibrium. As the primary, long-run objective, especially of mature, successful firms, Professor Gordon suggests "‘satisfactory profits,’ as vague as that criterion is," and a safe financial position.¹¹ My investigations lead to the conclusion that, instead of a single, long-run objective, business managements pursue simultaneously or successively a number of goals, which are not completely consistent with one another. The order of priority may vary from time to time, perhaps changing with conditions facing the firm, so that new balances may have to be drawn between conflicting goals. A list of such goals might include the following: "satisfactory" or "reasonable" profits, maximum possible profits, security and convenience of the existing management, achievement and maintenance of sufficient liquidity to assure the firm's financial safety, and maintenance of the firm's market position or its established share of the industry's total sales.¹²

The particular goals and the management's strength of desire to attain them may vary with the age and degree of maturity of the firm, the management, and the industry; with the extent and kinds of pressure from stockholders, creditors, and labor; and with the attitudes of the community, the customers, the suppliers, the employees, and competitors toward the firm and its management. Attitudes, supported by organizational influences and pressures, may be very influential, especially where the management is sensitive to outside opinion and seeks to avoid difficulties for itself.

It might be contended that some of the goals in the list are means of achieving others rather than themselves being primary objectives. Illustrations of possible conflicts between them indicate, however, that frequently that is not the case. The management of a firm may consider it unwise to have it make a profit beyond a certain total or percentage of stockholders' investment in any one year. That may be because maximum possible profits would result in adverse publicity, would encourage organized labor to use the firm as a wage leader, might lead to governmental investigation and prosecution of the management, or might have some other effects that the management, for non-profit reasons, desires to avoid. Adequate liquidity may be purchased at the continued expense of the possibility of greater profits. The management of a firm may strive to maintain its position and prestige in an industry even though the dropping of some unprofitable lines would promise an indefinite increase in the rate of profit on owners' equity. Insufficient emphasis has

¹¹ *Loc. cit.*, p. 271; see also pp. 275 and 284. Professor Reynolds remarks: "There may be little interest in *maximum* profits so long as actual profits are up to conventional standards" (*loc. cit.*, p. 298).

¹² Professor Gordon refers to some of these as subordinate objectives, although he conceives of them as often independent of the primary objective and he seems to imply that at times they might take precedence over the criterion of profits.

been placed on maintenance of a firm's market position and prevention of any decline in its relative status as an independent motivating force, influencing a company's policies with respect to sales, output, and investment.

Multiplicity of and varying priority in the long-run goals on a firm make all the more questionable the notion of short-run equilibrium at a point uniquely determined, and lend support to the concept of an equilibrium zone or area. Incidentally, some fairly obvious similarities exist between a long-run goal of "satisfactory" profits and short-run zone of satisfactory operations.

The conceptions of long- and short-run equilibrium outlined here may seem so vague and indefinite as to rob the notion of equilibrium of the firm of much of its analytical usefulness. If one is thinking in terms of mathematical precision and manipulation, that may to some extent be true. This psychological approach in terms of management satisfaction and dissatisfaction does, however, appear to conform rather closely to the pattern of business thinking and practice and seems to offer possibilities of fruitful development through empirical investigation. By broadening and shifting the base of analysis it may help to provide keys for a number of doors that until now have remained unlocked.

THE NEW BRITISH LAW ON MONOPOLY

By RUTH COHEN*

The British Monopolies and Restrictive Practises (Inquiry and Control) Act passed the British Parliament, unopposed on its main points, in the summer of 1948. It is the first British statute since the Statute of Monopolies in 1624 for the regulation of monopoly in general (as distinct from the control of the "natural" public utility monopolies). Previously, monopolies were only subject to such control as was provided by the common law. Under this, certain contracts in restraint of trade are illegal and unenforceable; but the exceptions are so large, and the interpretation of the law has been so favourable to agreements that there remain, probably, few monopolistic practises except the most obviously outrageous which are illegal and not many which cannot be so drawn as to be enforceable at law.

This article first outlines the main provisions of the new act and then comments on some of the points of policy involved.

The long title of the act reads "an Act to make provision for inquiry into the existence and effects of, and for dealing with mischiefs resulting from, or arising in connection with, any conditions of monopoly or restriction or other analogous conditions prevailing as respects the supply of, or the application of any process to, goods, buildings or structures, or as respects exports."

The act applies when one-third or more of goods of any description in the United Kingdom or a substantial part of it is supplied, bought or processed, either by or to one person (or by or to interconnected corporations) or by or to two or more persons who have a tacit or expressed arrangement to limit competition in any way in the particular trade. It applies also if, by agreement or arrangement, goods of a particular description are not supplied at all in the country or a substantial part of it (Clauses 3 and 4). Finally it applies to exports, either as a whole or to particular markets, if one-third of British production is in one firm's hands, or subject to arrangements to limit competition (Clause 5). Agreements dealing with wages and employment are exempt from the provisions of the act (Clauses 3, 4, and 5).

A Commission is to be set up, consisting of not less than four nor more than ten persons appointed by the Board of Trade. The normal period of office for any member is intended to be five years, but a member can be reappointed for one further period (Clause 1). This Commission is to examine cases referred to it by the Board of Trade, selected from among those to which it appears the act applies. The Board may not refer cases where the arrangements have been expressly authorized by law (*e.g.*, nationalised industries, Agricultural Marketing Boards). But the Commission may be asked to assist the Board in considering any matter to which this act applies, whether the ar-

* The author is a fellow of and a University lecturer in economics at Newnham College, Cambridge, England.

· rangement in question has been authorised by law or not (Clause 2).

The Board of Trade may refer cases to the Commission in either of two ways: (a) it may limit the investigation and report to the facts, that is to say, to whether the conditions to which the act applies in fact prevail for the goods in question, and if so how and to what extent, and to the actions which the parties concerned take as a result of or in order to preserve those conditions; or (b) it may require investigation and report on both the facts and on whether the situation reported operates, or may be expected to operate, against the public interest (Clause 6). (An attempt, discussed later in this article, is made to define "the public interest" [Clause 14]).

The Commission must report unequivocally and, where the investigation is not confined to the facts, may suggest action, to be taken by Ministers, government departments or the parties concerned, to remedy or prevent anything which, in its view, operates against the public interest. If any member of the Commission dissents from the majority on a reference not confined to investigation of the facts, he may include his views in the report (Clause 7).

Later the Board may ask the Commission to report on how far any remedial action it proposed to the parties concerned is being carried out (Clause 12).

References to the Commission must be published (Clause 6), and the Commission's report must be laid before Parliament if it was not limited to the facts, subject to a security safeguard and to the possibility of suppressing information which substantially damages "legitimate business interests" and which is not vital to the argument of the report. The Board of Trade may decide whether or not to lay before Parliament reports confined to the facts (Clause 9). The Board must also lay annually before Parliament a report reviewing suggestions and requests for reference of matters to the Commission, provided these do not appear to be frivolous (Clause 16).

Finally the Board may ask the Commission for a report on the general effect on the public interest of particular monopolistic and restrictive practices, provided the Commission has dealt with such practises in relation to particular goods in earlier reports (Clause 15).

Some new sanctions are provided, in addition to those, such as price control, that Ministers already possess (Clause 13). "Competent authorities" (that is to say, the Ministers responsible for different industries [Clause 20]) are given power to prohibit by Order the making or carrying out of agreements, and to prohibit boycotts, conditional sales, and preferential terms. These Orders must not interfere with patent rights. Orders so made must be laid in draft before Parliament and approved by resolution of each House (a far shorter procedure than an act of Parliament). They can only be made if, on a reference not confined to the facts, the Commission has reported that the conditions to which the act applies prevail, and *either* the Commission has reported them against the public interest, *or* the House of Commons by resolution so decides (Clause 10).

No criminal proceedings can be brought under the act, but either the Crown or any person affected may bring civil proceedings for an injunction to stop the action prohibited or for any other appropriate relief. The Trades Disputes

Act of 1906 is not to apply to such proceedings (Clause 11). (This act prohibits any actions of tort against a trade union; and the term trade union in law includes many associations between master and master).

These are the main provisions of the new act. It is at once apparent that it is not a drastic measure. Although some new sanctions are provided for "dealing with mischiefs" (to take the words of the long title) and some hints have been given that existing powers, for instance of price control, may be used to control monopolies, greater emphasis, both in the act itself and in the debates while it was discussed in the House of Commons, was laid on "inquiry," and on the publicity which will follow it.

The philosophy behind the act is still that expressed in the White Paper on Employment Policy published in the spring of 1945 by the coalition government:¹ "... agreements ... to control prices and output, to divide markets and to fix conditions of sale ... or combines do not necessarily operate against the public interest, but the power to do so is there." In addition, it is held that insufficient information exists on the operation of monopolies and restrictive practices, and that only a detailed examination of each can bring out whether or not it works against the public interest. This for the present; but later, as the Commission develops experience, the government (though not the Opposition) holds that it can usefully pronounce on the merits or demerits of particular types of restrictive practise, as a guide to business and the public.

The task before the Commission is a formidable one. First, it must interpret the public interest. It has, to guide it, the definition introduced into the Bill at third reading:

... all matters which appear in the particular circumstances to be relevant shall be taken into account and, amongst other things, regard shall be had to the need, consistently with the general economic position of the United Kingdom, to achieve:

(a) the production, treatment and distribution by the most efficient and economical means of goods of such types and qualities, in such volume and at such prices as will best meet the requirements of home and overseas markets;

(b) the organisation of industry and trade in such a way that their efficiency is progressively increased and new enterprise is encouraged;

(c) the fullest use and best distribution of men, materials and industrial capacity in the United Kingdom; and

(d) the development of technical improvements and the expansion of existing markets and the opening up of new markets.

All this is admirable. But it does not get the Commission very far. How is it to decide, for instance, whether or not to approve restrictive practises designed to maintain some rate of return on capital in a declining industry which, under competition, would work with no margin over prime costs? Prices above prime costs but below total costs could not be regarded as extortionate; but the capital already invested in the industry would be more fully used if prices were kept down. Again, when, if at all, should it

¹ Cmd. 6527.

permit the division of markets? Economists may think they know the answer to these questions. But not all economists would agree on all of them. And certainly economists would often disagree with businessmen or accountants.

The sort of difference of opinion that may arise is illustrated by two recent reports of committees of enquiry. One dealt with cement, the other with building materials and components generally. Both examined the system of fixed minimum prices and of deferred rebates to merchants which are forfeited if the merchant deals with any manufacturers outside the agreement. The first committee found that the price system as a whole was not an unsound one and that there was "sufficient bargaining power between the manufacturers and those interested in the rebates to make it right to leave these matters for adjustment between the interested parties."² The second found these practices to be "not in the national interest" and regarded it as essential that they should be eliminated.³ (It should perhaps be added that there was an economist on the second committee but not on the first.)

It is not, of course, true to say that the Commission will be left quite as unassisted in interpreting the public interest as were the various prewar bodies set up to supervise or comment on the actions of different statutory monopolies. It is told that production should be "by the most efficient and economical means" and that organisation must be such that "efficiency is progressively increased and new enterprise is encouraged." Presumably this should rule out the exclusion of newcomers and the organisation of restriction schemes which, like the Rubber Restriction Scheme in Malaya, benefited the high-cost producers (the plantation producers) at the expense of the low-cost native producers.

Both the government and the opposition realised the difficulty and the importance of the task entrusted to the Commission. The President of the Board of Trade said that he was determined to seek good members of the Commission. Some might be full time but others would be part time, persons already holding responsible positions which they did not wish to give up.

The task of interpreting public interest is thus left mainly to the Commission. But not wholly. As stated earlier, the act permits the House of Commons by resolution to decide that actions taken are against the public interest even though the Commission has decided otherwise. This clause was strongly opposed by the opposition, on the grounds, mainly, that it introduced politics unnecessarily, and that the Commission's findings should only be over-ruled by an act of Parliament, involving several full debates in Parliament. The decisions involved are major decisions, and controversial ones; it is difficult to see how, in the absence of a statement in the act of what type of monopolistic practices should be regarded as against the public interest, the matter can be wholly left to the Commission. And it is difficult to find time in Parliament for new Bills and several debates.

The task is formidable for a second reason, the number of cases to be

² *Cement Costs—Report by the Committee appointed by the Minister of Works.* H.M.S.O. 1947, pp. 21 and 22.

³ *The Distribution of Building Materials and Components. Report of the Committee of Enquiry, appointed by the Minister of Works.* H.M.S.O. 1948, pp. 21-26.

surveyed. Monopoly and restrictive practises in the sense defined by the act are very numerous indeed in British industry. Under the act, it is clear, progress in examining them all will be very slow. And it is far from clear that the sanctions provided in the act or by other legislation will always be adequate to ensure that actions decided by the Commission or the House of Commons to be against the public interest will be prevented in future. Monopolistic agreements can be terminated or forbidden, and boycotts, conditional sales and preferential terms prohibited. This may be adequate for the cartel type of monopoly, where firms maintain their separate identities. But it only touches the fringe of the problem presented by dominating firms or trusts. These fix their own prices and output, and can do so in a monopolistic fashion without any agreement. For these there remains, perhaps, the sanction of price control. But it is precisely in dealing with monopolies of this sort that price control (never a very effective sanction) becomes most ineffectual. Such control must be based in some way on costs; and the only costs available to be measured are those of the dominating firm. Either the firm is encouraged to keep up its costs, and thus the imposed price; or it is allowed to retain part or all of any profits resulting from lower costs, and the control gradually becomes inoperative.

Reliance has therefore to be placed on publicity, and on a change in the attitude of industrialists towards monopoly as the Commission pronounces on individual cases and gives a lead on policy. It is here that must lie the greatest hope of speedy action. The Commission cannot itself examine many cases a year. But if its decisions on one case influence the actions of a large number of businesses not themselves examined, it may affect many monopolies.

The Commission will have plenty of work within the framework of the act. None the less, it is perhaps unfortunate that cases of monopoly expressly authorised by law may not be referred to it. These fall into two broad groups, the nationalised industries, which have absorbed many of the large public utility monopolies, and agreements among privately owned firms authorised by statute. The opposition strongly urged that nationalised industries should be subject to an "efficiency audit" by the Commission. But this is a different task from that of seeing that the desire for private profit does not damage the public interest. It therefore seems reasonable not to place this considerable extra burden on the Commission.

On the other hand, privately owned firms or industries which are placed by law in a monopoly position present many of the same sorts of problems as other privately owned monopolies. The expertise which the Commission acquires in studying the latter should be useful in dealing with the former. Probably the most important of this type of monopoly before the war were the Agricultural Marketing Boards. At present most of their prewar functions are exercised by the Ministry of Food. The government is to produce a Bill about their future. If they are to be perpetuated, it may be hoped that their activities will be subject to investigation by the Commission rather than by the somewhat ineffectual and powerless Committees which had this task before the war.

COMMUNICATIONS

The Foreign-Trade Multiplier, The Propensity to Import and Balance-of-Payments Equilibrium

What may be a formal error in an article of mine¹ has come in for attack in literature in international economics which has belatedly come to my attention.² The present communication is designed to make confession to deviationism, if not to error in a formal sense; to enter a defense that the position taken conforms to the real world if not to the mechanics of the most popular economic models; and to suggest that neither my critics nor I have probed deeply enough into the subject.

The "error" appears in a discussion of the equilibrating mechanism in the balance of payments of a country with a high foreign-trade multiplier and a high propensity to import *vis-à-vis* a country with a low foreign-trade multiplier and a low propensity to import. A large increase in exports of the former was postulated. It was pointed out that incomes would rise substantially and that this would produce effects in turn on imports. The sentence which attracted the unfavorable attention started with the words: "This rise in imports may be larger than the increase in exports which prompted it. . . ."

The general law laid down by Samuelson, which he asserts is overlooked by many economic writers, reads: "So long as some fraction of income at every stage is leaking into domestic savings, a new dollar of exports will never be able to lift income by enough to call forth a full dollar of new imports."³

¹ "International Monetary Stabilization," in S. E. Harris, ed., *Postwar Economic Problems* (New York, McGraw-Hill, 1943), pp. 375 *et seq.*

² My "defective argument" is attacked explicitly in S. Enke and V. Salera, *International Economics* (New York, Prentice-Hall, 1947), Chap. 31, esp. pp. 599 to 606. It may be noted that the authors expressed their gratitude to A. I. Bloomfield for the basic ideas involved in their discussion. Bloomfield has been kind enough to show me the typescript of his forthcoming *Capital Imports and the Balance of Payments, 1934-39*, which contains a substantial footnote in Chapter 9 devoted to the demolition of my argument.

It has been suggested to me, moreover, that I represent the "many economic writers" who have overlooked the general rule set forth by P. A. Samuelson in his *Economics* (New York, McGraw-Hill, 1948), p. 392. L. A. Metzler, who charged me with error verbally upon the appearance of the article when neither of us had sufficient leisure to discuss it, may also have had the point in mind in making his contrary positive statement in "The Theory of International Trade," in H. S. Ellis, ed., *A Survey of Contemporary Economics* (Philadelphia, Blakiston, 1948), p. 215.

In addition to the foregoing, it was a common occurrence during the portion of the war I spent in Washington to be stopped on the street by fellow economists and to be told that my argument had been demolished by their graduate students.

³ That this is not an entirely accurate way of stating the point is understandable in an elementary textbook. What Samuelson means, of course, is, "So long as some fraction of income at every stage is leaking into savings and *no induced increase in home investment*

Enke and Salera list the foregoing among the reasons which prevent an increase in exports from calling forth a larger increase in imports and clinch their case by adding that "there is scarcely any case where the marginal propensity to save is not a positive quantity."⁴

The deviationism to which I am prepared to confess consists in the fact that I was talking not about the economic models discussed by Machlup in his *International Trade and the National Income Multiplier*⁵ but about the behavior of real economies. In Machlup's models, for example, the increase in exports (or other primary disbursements) must be sustained. "This technique does not deal with the effects of a single dose. . . ."⁶ It is also assumed that home investment is entirely unaffected by the changes in foreign trade as well as by the changes in income which may result from foreign trade.⁷ Nurkse chafes at the restraint imposed by this assumption.⁸ But given his assumptions, Machlup's models and his discussion of what the multiplier will and will not do are of high pedagogic value. Machlup admits that ". . . objections may indeed discredit the theory insofar as its application to concrete situations is concerned."⁹

The case I had in mind in suggesting that the combination of a high foreign trade multiplier and a high propensity to import might overcompensate for a favorable balance of payments was the Argentine example of 1936-38. In the fall of 1936, the failure of the American corn crop and a tight grain position in Europe called forth large corn exports from Argentina at good prices. Income in Argentina rose. The Argentine central-bank authorities attempted to use the afflux of foreign exchange to repay foreign debt owed in New York and shortly to become due. The inexorable rise in imports, subsiding only slowly long after the export position had returned to the *status quo ante* (and had even deteriorated) eventually required the Argentine authorities to enter into new loans in the New York market.¹⁰

Arthur Smithies has suggested to me that the Australian economy tends to behave in the same way that the Argentine economy did during this period; increases in exports generate surpluses in the current account which subsequently give way to deficits. cursory examination of merchandise-trade

occurs, or so long as the volume of income leaking into savings exceeds induced increases in home investment, a new dollar of exports, etc."

⁴ *Op. cit.*, p. 601.

⁵ Philadelphia, Blakiston, 1943, *passim*.

⁶ *Ibid.*, p. 7.

⁷ *Ibid.*, p. 19.

⁸ In his "Domestic and International Equilibrium" in *The New Economics*, S. E. Harris, ed. (New York, Knopf, 1938), p. 267. It may be noted that Nurkse and Metzler both postulate the possibility that the action of the foreign-trade multiplier and the propensity to import may use up the foreign-exchange surplus initially created by the autonomous increase in exports. They, therefore, either belong to the group of writers which have overlooked the general law enunciated by Samuelson or disagree with Bloomfield and Salera as to the possibilities of the propensity to save being zero.

⁹ *Op. cit.*, p. 9.

¹⁰ The position can be illustrated concisely by the following figures from the League of Nations, *Balance of Payments, 1938*:

figures for the same period as in the Argentine case suggests a closely parallel behavior. Imports in this instance failed to turn downward in the same year as exports.¹¹

It might be argued that the figures showed simply the effects of alternate rising prosperity and depression in the United States as effected through the 1936-37 inventory boom and the subsequent slump. The reaction of changes in exports on imports through income would then be so slow or incomplete¹² as to produce balance-of-payments surpluses abroad in times of American prosperity and deficits in depression. I do not think so, though the evidence is worth more detailed investigation. In the Australian case, imports continued to rise after exports had turned down moderately. In the Argentine, imports of machinery continued to rise in 1938 after exports had fallen drastically. In my judgment, negative savings within the countries (or in-

ARGENTINE BALANCE OF PAYMENTS IN CURRENT ACCOUNT (LESS GOLD)
(in millions of pesos)

	<i>Credits</i>	<i>Debits</i>	<i>Balance</i>
1935	1774	1760	+14
1936	1900	1783	+117
1937	2531	2213	+317
1938	1540	2051	-511

Further investigation into the detailed figures on a monthly basis might be rewarding. A chart in League of Nations, *Review of World Trade*, 1938, p. 26, shows that the increase in exports was concentrated in the last half of 1936 and first half of 1937, and that imports were much higher in relation to exports after mid-1937 than before. The *Review* further points out that imports of machinery into the Argentine, which had been two-thirds higher in 1937 than in 1946, rose by another 31 per cent in 1938. This suggests that home investment was taking place on an increasing scale.

¹¹ From the *Review of World Trade*, 1938. Balance-of-payments figures comparable to those used for Argentina are not readily available in the League of Nations material for 1938. Debits, moreover, contain a large and sluggish item of interests and dividends.

AUSTRALIAN MERCHANDISE TRADE
(in millions of old gold dollars)

	<i>Exports</i>	<i>Imports</i>	<i>Balance</i>
1935	264.7	226.4	+37.3
1936	301.9	256.2	+45.7
1937	347.9	296.8	+50.1
1938	306.0	305.0	+1.0

With a merchandise-trade surplus of only \$1.0 millions old gold dollars, the total Australian current account was sharply deficitary. Indeed, the account was in deficit in all four years above.

¹² See Metzler, *op. cit.*, pp. 219-20, who states: "While some difference of opinion still exists concerning the role of induced investment, the conclusion of most economists seems to be that, except under unusual conditions, the adjustment of a country's balance of payments by means of income movements is likely to be incomplete."

I would agree that conclusions must be tentative (as indeed was my original statement). I am inclined to think, however, that in the present stage of economic development of a number of countries in the world, the operation of the foreign-trade multiplier (*cum* induced home investment) and the propensity to import may tend to produce an incomplete adjustment to decreases in exports and an overcomplete adjustment to increases.

duced investment) prolonged the adjustment to the rise in exports. I would not, however, expect a ready and complete adjustment to a decline in exports. I fail to find it strange that the savings function of a country may be negative under certain dynamic conditions. It is true that, in general, individuals tend to save more as incomes increase. But at certain stages in rising standards of living, both secularly and during the cycle, savings in certain income groups may become negative as individuals go into debt to purchase durable goods pertaining to a higher standard of living. Such action can take place in response to an increase in income. Growing companies may expand their borrowing at certain points in their history in response to an increase in net revenue. Similarly, it may be that countries, whether deliberately in planned fashion, or through the agglomeration of thousands of individual decisions, may live above their means for a time in response to an increase in income. This type of response, when capital is not available for borrowing from abroad, may lead to a severe loss of reserves of gold and foreign exchange.

The Bloomfield-Enke and Salera argument that this thesis cannot be true because its converse cannot be demonstrated is based on novel if fallacious logic. I would answer that it is possible to regard the demand for commodities in international trade as elastic with respect to increases in incomes and inelastic with respect to decreases. This proposition is familiar enough in this country, where luxuries have a habit of becoming necessities. *Ab initio*, of course, a decline in exports cannot produce a drastic decline in income and commodities for which the demand is elastic if imports of the latter at this standard of living are small. An increase in exports, on the other hand, could produce a large increase in these classes of imports.

While I must insist on the validity of the point as made in my original article, I am prepared to negotiate on a generous basis with any critic who chooses to contend that its importance was exaggerated.

C. P. KINDLEBERGER*

* The author is associate professor of economics at Massachusetts Institute of Technology.

Central Banks and the State: A Comment

In a recent issue of the *Review*, Mr. Kriz traces, with extensive and useful documentation, the increasing subordination of central banks to Treasuries.¹ With full recognition of Mr. Kriz's material contribution, he fails to bring out what may be the most important aspect of this continuous reduction in the independence of central banks.

A generation ago, the quantity of money was widely believed to be related precisely and immediately to the price level. This influence on the price level, of course, was viewed as one of the leading factors in maintaining the general economic health of the economy. There were, to be sure, many dissenters from this extreme view but in the area of public policy formation it was dominant. Thus, when central banks inherited, assumed, or were assigned

¹ M. A. Kriz, "Central Banks and the State Today," *Am. Econ. Rev.*, Vol. XXXVIII, No. 4 (Sept., 1948), pp. 565-80.

monetary powers, this prestige was bound to be great. And because of the vast importance attached to these powers, it was felt that central banks should be insulated from the more direct impact of current politics to safeguard the exercise of these monetary powers.

But the more dogmatic quantity-of-money views have lost their standing. While it would be wrong to say that fiscal policy has displaced monetary policy in professional and popular regard, there has undeniably been a large shift in this direction. Certainly small monetary actions and moderate changes in the quantity of money are no longer regarded as important as they once were. On the other hand, small fiscal operations, quarterly tax payment dates, for example, have been given increasing attention in the analysis of current economic conditions. But in the administrative branch of government, fiscal matters have always been in the province of the Treasury. Thus, with no change in the distribution of formal powers, the change in the evaluation of powers demoted central banks relatively and at the same time raised the prestige of Treasuries.

In these circumstances, it is fairly obvious (and clearly true in practice) that when there tends to be a conflict of monetary and fiscal considerations, the fiscal ones take priority, the monetary ones give way.

It was not just the growth of public debt or its absolute size that accounted for greater importance of Treasuries; it was that public debt management came to have more aspects of monetary management. It was through the channel of public debt that Treasuries came to have a much greater voice in monetary matters. Fiscal effects do not end with the determination of the size of the public debt; the matter of how the debt is financed is of almost equal importance. When public debt is financed through the banking system, the results are relatively inflationary (to the extent there is any residual truth in quantity-of-money influences). Financing by sale of public debt obligations to the non-banking public is as such deflationary, and might undo some of the expansionary effect of the deficit spending.

Mr. Kriz is right in averring that the decline of the international gold standard was one of the leading factors shifting the balance of authority between central banks and Treasuries. As long as the gold standard prevailed (and more important as long as the logic of automaticity that it implied was accepted by the financial community), the action of the central bank in protecting its own gold reserves was identified with the public interest. But when faith in automaticity was shaken and when the international gold standard was no longer general, central banks were without the tools or the logic for international monetary action. Their future actions are most likely to put domestic considerations ahead of international ones, except in case of war. An action such as the increase in discount rates in the midst of a deep depression by the Federal Reserve System in September, 1931 when England departed from the gold standard, a case of putting gold standard considerations ahead of domestic economic needs, probably will never take place again.

But Mr. Kriz could have made this international point even more emphatic. The nature of international relations has itself changed. The ends of international economic policy are now seldom economic ones; they are more often

political or even military. When the governments of powerful nations are scrambling in the world arena for position and prestige, it becomes unthinkable that the central banks of any one of them should stand out against their governments. It is not so much that central banks have, in this connection at least, lost place *vis-à-vis* Treasuries; but rather that both have been forced to look less to economic ends in matters of international policy and more to other factors.

In any event, once the logic of automaticity in monetary policy is lost and the ideas of monetary management creep in, it is unthinkable that the agency exercising the powers of monetary management would be independent of government. In fact, the political independence of central banks was mainly a goal of those who hoped either by adherence to the domestic gold standard or by inviolate legislative rules to make money supply a function of rule and not of administrative authority. The question of whether the administrative authority was the central bank or the Treasury was far less important.

One final exception may be taken to Mr. Kriz. He lists the Federal Reserve banks as owned by the "private" member banks. Strictly speaking, he is right but to direct attention to this aspect of Federal Reserve organization is to misconstrue the facts. The balance of major authority in the System proves it to be a "public" agency.

Particularly since the Banking Act of 1935, the balance of power within the System has been clearly on the side of the central organ of the system: the Board of Governors. This Board is clearly an agency of the federal government. Its membership is appointed by the President with the advice and consent of the Senate. Although the Board has avoided partisanship in the narrower sense, it is clearly "political" in the better sense of the word. The chairman of the Board serves a four-year term, but in practice though not in law, he continues to serve only at the pleasure of the President. The prestige of this position is such that the current political administration cannot help but have an overwhelming influence on the Board. Nor is this meant to sound bad; an administration could not discharge its economic functions without control of monetary powers.

Between the Board of Governors and the Federal Reserve Banks, the balance of authority has been considerably shifted toward the Board during the past decade and a half. The seven members of the Board are a majority of the powerful Open Market Committee. The Board itself sets the reserve requirements of member banks (within the margins permitted by law), and it in effect controls bank discount rates. Without minimizing the advisory influence of the Reserve banks, their direct role has been a shrinking one.

What is probably more important, the Reserve banks themselves have become conscious of their public position and their acts and utterances have taken on a quality of public statesmanship which was not true of earlier years. They represent an admirable blend of public and private characteristics reminiscent of the traditional Bank of England position.

ROLAND I. ROBINSON*

*The author is professor of banking at Northwestern University.

BOOK REVIEWS

Economic Theory; General Economics

Towards a Dynamic Economics. By R. F. HARROD. (London: Macmillan & Co. 1948. Pp. ix, 169. \$2.25.)

This is an important and penetrating book. The fundamental ideas are based on Mr. Harrod's brilliant article in the March, 1939 issue of the *Economic Journal*. Here the analysis is presented more fully, and there is considerable new material dealing with the supply of saving, the foreign balance, contra-cyclical policy, and interest-rate policy.

The volume as a whole centers around the problems of a *growing* economy, in particular those associated with the process of saving and capital formation. Those who are concerned with problems (like those confronting the Council of Economic Advisers) relating to stability and balance in the nation's *economic* budget will find highly stimulating suggestions for empirical research, particularly in the area of maintainable rates of growth of the capital stock.

In the author's view, the definition of dynamic economics as that branch of theory in which every quantity must be dated (Hicks) may indeed be a genuine mark of the study of oscillation in terms of time lags. Nevertheless, for Harrod, dynamics has to do with "continuing changes generated by the special nature of a growing economy" (p. 11). Dynamics is concerned specifically with the effects of continuing changes and with rates of change (p. 8). The trend of growth may itself generate forces making for oscillation. The study of rates of growth and time lags should indeed go together, but dynamics is mainly concerned with growth and continuing rates of change.

Thus Harrod goes back to the classicals prior to Marshall. The "classical economics contains in roughly equal proportions what I define as static and dynamic elements" (p. 15). Saving is rightly treated by Ricardo as a dynamic concept. So long as there is any positive saving, the shape of society is progressively altering (p. 16). Dynamics is concerned with growth. In a dynamic system the quantity of resources devoted to production is steadily growing. Dynamics must concern itself with "the necessary relations between the rates of growth of the different elements in a growing economy" (p. 19).

Growth of the capital stock depends upon: (a) population growth, and (b) technological advances (productivity per head).¹ Growth of the capital stock, commensurate with growth in the labor force and technological ad-

¹We may usefully divide capital growth, I would suggest, into two categories: (a) widening of capital, and (b) deepening of capital (meaning more capital per worker, *not* more capital per unit of output as with Hawtrey). "Widening" of capital means in these terms simply equipping the net additions to the labor force with standard capital equipment. This requires no change in technique, only a growth of population. "Deepening" of capital means to equip each worker with more capital. This requires a change in technique, if we assume the rate of interest constant.

vances, will raise output (real income). The ratio of capital to income is the "capital coefficient." Inventions, while usually increasing the capital per worker, *may* leave the capital coefficient unchanged.²

The heart of the book may be found in Chapter III on "Fundamental Dynamic Theorems." The equations presented deal with the basic problem of the capital requirements of a growing society, the propensity to save, and the rates of maintainable growth. A "higher propensity to save does, in fact, *warrant* a higher rate of growth. Trouble arises if the rate of growth which it warrants is greater than that which the increase of population and the increase of technical capacity render permanently possible" (*Economic Journal*, March, 1939, p. 31). The *normal* rate of increase is that determined by the fundamental conditions of a steadily advancing economy enjoying given trends of population growth and technological advances.

Here we encounter the fundamental equilibrium equation, $G_w C_r = s$, in which G_w expresses the rate of "warranted" growth in an economy with a given propensity to save, C_r is the new capital required to sustain a given increment of output, and s is the fraction of income which individuals and corporations choose to save.

But now G_w may have no relation to "the rate of advances which the increase of population and technological improvements allow (p. 87). This latter, designated G_n , may be called that *natural* rate of growth of output associated with the growth of capital required by population increase and technical advances. Now the basic capital requirements ($G_n C_r$) may not correspond to the propensity to save. Quite possibly $G_n C_r \neq s$. It is the divergence of $G_w C_r$ from $G_n C_r$ which presents the problem of chronic unemployment.

Mr. Harrod considers another equation, a truistic one representing *ex post* the actual fluctuations in rates of growth in output, G ; actual fluctuations in the rates (marginally considered) of capital to output, C ; and finally the per cent of income saved, s . Thus the equation $GC = s$ is simply an identity statement reflecting *actual* changes in these variables. The problem of the trade cycle relates to the divergence of the *actual* rates of growth G , from G_w and G_n .

If G exceeds G_w , as it is likely to in a high boom, capital formation will exceed savings at full employment and inflation will result. If G falls below G_n , then capital formation will fall below the *normal* rate of growth, and so a backlog of investment opportunities will develop preparing the way for recovery.

Harrod's analysis is concerned on the one side with the problem of maintainable rates of investment, and on the other side with the problem whether autonomous investment impulses are sufficiently powerful to raise income enough to induce a full "widening" of capital. For example, in 1937-40, it

² Fellner (*Monetary Policies and Full Development* [1946], p. 80) gives capital coefficients for each of the five decades from 1884 to 1933 as follows: 2.8, 3.1, 3.2, 3.2, and 3.0. Using his data one can calculate for the same period the marginal coefficient (the ratio of the *increase* of capital to the *increase* of income from decade to decade. The marginal coefficients are: 3.9, 3.3, 3.1, and 2.6.

is quite clear that a government program to raise income to a full-employment level could have *induced* considerable capital formation, thereby bringing capital facilities (steel, for example) up to the level of the requirements of a full-employment income.

Mr. Harrod explicitly states in the foreword that Britain can look forward to a considerable period in which the interwar difficulties due to over-saving will not recur. But he nonetheless believes that "sooner or later we shall be faced once more with the problem of stagnation; and that it is to this problem that economists should devote their main attention." Moreover, he suggests that "the United States is not likely to be exempt from the problem of chronic depression," and so he deems his analysis to be of "urgent and vital relevance" here.

The main solution offered by Mr. Harrod for the long-run problem, as distinct from that of the cycle, is to drive down the rate of interest. A fall in the rate of interest would tend to raise the capital coefficient C_r , thereby helping to bring $G_r C_r$ into balance with saving. Yet he admits that even a zero rate of interest might not produce enough effect on investment (*via* the increase of capital in relation to output) and on saving to secure steady progress.

To the reviewer, a serious limitation of the proposal is the fact that any capital formation induced by a lowering of the rate of interest is a once-over push; once the capital stock has been built up to the level indicated by the low interest rate, investment outlets are again limited to the growth requirements of population increase and technical progress. Thus no *continuing* solution can be found *via* the interest rate. A low rate of interest might of course (the pros and cons of which would require another essay) be defended on other grounds.

Finally, the particular devices by which Mr. Harrod hopes to achieve his results are broadly similar to those proposed by Professor Frank Graham in *Planning and Paying for Full Employment*. For a critique of these ideas see my *Economic Policy and Full Employment*, Chapter XVIII.

What is really important in this book is not the practical policy sections, but rather the theoretical apparatus outlined for a study of dynamic economics. Mr. Harrod has given us an elegant piece of analysis, highly original, and pregnant with suggestions for theorists, econometricians and students of the business cycle.

ALVIN H. HANSEN

Harvard University

Income, Employment and Public Policy: Essays in Honor of Alvin H. Hansen.
(New York: W. W. NORTON. 1948. Pp. viii, 379. \$4.00.)

In this volume, sixteen former students or close associates of Professor Hansen have contributed essays generally germane to his work; most of them being expressive of American Keynesianism, theoretical or applied. They have been grouped into three parts, headed: "Determinants of Income" (meaning total national income), "Social Setting" and "Economic Policy." The essays in Part I generally treat the economy as a mathematically analysis-

able mechanism, though on that score, Robert L. Bishop's diagrammatic analysis of the three expansionist fiscal policies, which is placed in Part III, could as well be placed in Part I. The three essays in Part II are presumably placed there because they are broader in range or perspective than the others—in three quite different ways. In the seven essays which make up Part III, "economic policy" is dominated by fiscal policy, taxation and the national debt; the only exceptions being Alice Bourneuf's specialist's account of "Exchange Practices and the Fund" and John Dunlop's notable essay on wage-theory. Judging from the internal evidence, the essays were not written to fit into a table of contents, and the degree of unity they show is evidence of the trend of their authors' thinking, rather than of editorial planning. The anonymous editor's task of grouping and classifying them was both necessary and difficult.

The reviewer, naturally, cannot discuss adequately each of sixteen essays; nor can he discuss them as a group without doing injustice to the extent to which each is an individual product. In general and prevailing, the reader finds the economy treated as a massive and impersonal mechanism, with consumption an unvarying function of an individual's disposable income, and with a less unanimous tendency to take private investment as given, or to pay scant attention to the questions of motivation, and especially the more imponderable motivations, that underlie the behavior of private investment. There is also a tendency to slight the real problems of inflation by assuming that it is something that arises only when income exceeds the full-employment level, and that inflation and depression are simple opposites (Bishop, p. 318). This is perhaps part of a general tendency to neglect problems of the wage-price structure. The exceptions to these tendencies acquire scarcity value.

One of these is David McCord Wright's essay on the effects of income-redistribution. This stands out as a liberal document, concerned with qualitative matters and with the reactions of flesh-and-blood individuals. He stands for a balanced system, permitting some equalization of incomes, and stressing the importance of preventing severe deflation; but his emphasis is on the danger of going too far, in too doctrinaire a spirit.

"An uncritical acceptance of literal equality of income as a positive goal, and a preference for state action upon all occasions, will leave the regime of 'guided capitalism' devoid of vitality, or excuse, and ripe for extinction." This would mean economic stagnation, through the "law of deterioration of self-perpetuating groups," and the crushing of political democracy, because the dissenter will have no chance against the economic power of the monolithic employer. Compared to this, the kind of competitive forces that can still be preserved, imperfect as they are, seem to him vastly important. His program centers on the attempt to strengthen them, and in that light the main positive argument against drastically progressive taxation seems to be that it prevents the small concern from growing large by plowing back its earnings, and tends relatively to strengthen the position of the interests that have already arrived; and to prevent the group of leading concerns from growing as numerous as would be desirable.

Negatively, he combats the argument for complete equality of income which is based on diminishing utility. He emphasises the capacity of conscious wants to adjust themselves to income, and adds that the actual consumption of the rich is a relatively small matter in the national total. I believe I am representing his argument correctly in adding that in ethical terms which are the important ones in this case, inequality of income is rather incidental to tendencies of our time which "go far beyond mere capitalism." He holds that progress, both in the larger matters and in the ethical quality of the competitive game, hinges on the influence (without coercive power) of an elite who have influence and the will to use it, but are also willing to learn. This he admits represents a delicate balance; and it seems to be implied that, when it should come to the balance involved in deciding how far progressive taxation should go, one very important consideration would be its effect on the standing and morale of this elite class.

Who are they? Wright uses the term "intelligentsia" to describe them, but they are apparently not coextensive with the "cultural elite," whose present prevailing attitude seems to be precisely what Wright deplors. They are justifiably alarmed about conditions, but alarm takes a misguided direction. "In the end, I believe, the intellectuals who destroy business competition in the name of redistribution, security and planning, because they hate Main Street, will find that they have destroyed the very diffusion of power which protected them from Main Street." In terms of what the reviewer has called "strategic decisions," Wright gives the maintenance of a strong competitive system priority over any very exacting degree of "full employment" or of equalitarianism. What this would seem to mean is to limit employment policy to what can be done by fiscal and monetary means, with the faith that this can keep recessions within bounds that can and will be tolerated. And the obvious question is what would happen to this strategic decision if, in some recession, unemployment should rise, let us say, to eight or ten per cent of the working population.

Turning to Dunlop's essay, he takes as his point of departure Hansen's theory of economically sound wages, consistent with a stable price level and therefore rising, on the average, only as fast as average productivity rises in the economy at large; but with wages in particular industries following a compromise course between the average rate and the varying rates of increase of productivity in the different industries. To this, Dunlop contributes an enlightening analysis of the extent and causes of departures from a balanced wage structure, defined as similar rates of pay for services that are similar in terms of skill, experience, training and other such factors.

He finds a strong tendency to this kind of balance within the area of a bargaining unit, which is in some cases narrower than an industry and in some cases broader. Departures are due, among other things, to differences in rates of increase of productivity or of demand (the two being interrelated). These factors have more effect under piece-work, or if wage-leadership is located in rapidly advancing industries, and less effect where one bargaining unit covers more than one industry, or where strong price competition gives most of

gain to customers, leaving little excess profit for wages to tap. Wages also tend to rise more where they constitute a small part of total cost, and where skill and similar requirements have risen. Rates of wage-change vary widely from industry to industry (the showing of bituminous coal would have changed spectacularly if the figures had been carried down to date instead of stopping at 1940). Dunlop accepts this wide dispersion as refuting the idea that rates *should* stay close to the average; and it seems at least to cast doubt on the *practicability* of attempts to stick very rigorously to previous differentials. But he indicates that the factors listed tend to set limits on dispersion.

The reviewer suspects that this is an example of a type of development that is needed to give relevance and realism to our whole traditional theoretical structure, from marginal utility or indifference curves down, substituting a zone of indeterminateness for a sharp line, and complementing this with active investigation of the forces that set limits on the width of the zone, and those that create variations within it. Taussig's "penumbra of supply and demand" was an early instance of the zone concept, but the second kind of study seems needed to complete it.

Another essay, not quite in the line of prevalent Keynesian emphasis, is E. C. Brown's examination of ways of taking the negative effect on investment incentives out of heavy business taxation. The analysis is technical, and the devices suggested may be too involved to be readily convincing, but the importance of the subject urges serious consideration of such proposals. It is refreshing to see this much attention given to the impact of fiscal policy on incentives to investment.

E. D. Domar also is concerned about private investment. He classifies it into spontaneous and induced, admitting some violence to logic, and not reckoning with the fact that actual investment is jointly affected by both kinds of causes. He is concerned about monopolistic obstructions, and gives a very lively and convincing account of the way desirable investment may be vetoed by existing interests in a hypothetical planning conference (p. 52). In so far as the loss from scrapping old investment is a deterrent to making new ones, he indicates that this deterrent varies with the percentage of the market the concern holds (p. 36), later concluding that "it is not monopoly in the narrow technical sense that matters, but rather bigness in general" (pp. 51-52). He has demoted to a footnote Kuznets' contention that large expected demand is a factor making replacements more economical, and indicating or at least implying that bigness has favorable as well as unfavorable effects.

As to induced investment, he holds it cannot happen so long as unused capacity exists (p. 46). This seems to leave out of account the theory and practice of stand-by capacity, which is the most economical way of handling short peaks, but is substandard for anything like continuous use, and may be replaced if demand improves to an extent creating an expectation that this stand-by capacity may be utilized, for example, 70 per cent of the time instead of 20 per cent. In such a case, "excess capacity" is a relative term; and the kind that is nearly always present does not veto induced replace-

ments. Later (pp. 46-47) Domar takes the extraordinary position that investment, increasing in response to increased income, does not count as "induced investment" until it exceeds the amount necessary to absorb voluntary savings, or to maintain "full employment." He seems to regard induced investment as desirable; yet investment beyond that point is inflationary, by definition. He estimates the critical rate of investment as increasing productive capacity 4 per cent per year; hence it requires 4 per cent increase of (real) income per year to bring it about. This is based on an estimate that marginal savings are 12-15 per cent of income (Duesenberry's formula gives not quite 10.23 per cent for the long-term trend); and that a dollar of added investment increases annual output-capacity by 25 to 33 cents. This gives a range of 3 to 5 per cent, or 2.56 to 3.41 per cent on Duesenberry's basis. If Duesenberry's figures are correct, Domar's 4 per cent would be mildly inflationary. He has rendered a service by undertaking a quantitative first approximation to the rate at which our Red Queen economy has to expand, to stay in the same place in terms of employment; but his 4 per cent is clearly a very rough estimate, and probably high.

James S. Duesenberry undertakes to bring under one formula the short-run and long-run savings functions, the rationale of his formula centering in the idea that the highest consumption previously attained tends to become imbedded in the standard of living, so that if income shrinks, consumption shrinks less than in proportion, and restores itself when income recovers, while the long-run trend is a constant proportion of income. His formula is:

$$\frac{S_t}{Y_t} = .165 \frac{Y_t}{Y_0} - .066 \text{ where } Y_t \text{ and } S_t \text{ are income and savings of any}$$

given year, and Y_0 equals the highest income of any previous year. This formula gives a higher marginal rate of savings for cyclical fluctuations than for secular trends, but has some tricky properties. With a steady increase of income at 2 per cent per year, a constant 10.23 per cent of income would be saved; and the secular trend through a series of cycles would be about the same. In a depression, the percentage of saving shrinks, reaching zero when income is 40 per cent of the previous high. At 20 per cent of the previous high, savings, having become a minus quantity, go no lower, and rise to zero as income goes to zero. The author notes that these peculiarities appear only outside the extreme range of probable fluctuation; but they cause the sensitive marginal rate of saving to change, even within the normal margin of fluctuations, starting at 26 per cent and diminishing as income shrinks below its previous high.

Duesenberry thinks in terms of a major cycle having an approximate ten-year term; and the percentage of income saved at the peak of such a cycle can vary between the extreme limits of 10 per cent and $13\frac{1}{2}$ per cent, according as income for the peak year exceeds that of the preceding year by a negligible amount, or by substantially the whole of the ten years' trend increase (which I am reckoning at 22 per cent). As a result, during a depression following a very sharp peak, the savings shown by the formula would be a little smaller, and consumption a little larger, than the rationale would call for. The formula, in effect, represents consumers as struggling to protect,

and to return to, a rate of consumption of 90 per cent of previous income, though their highest previous actual consumption (that of the peak year) may not have risen above 87 or 88 per cent. The formula registers the effect the previous peak income would have had on consumption if it had been sustained, when it may not have been sustained enough to have that effect. These peculiarities may not constitute major defects; but it is not clear that this formula is superior to the simpler procedure of reckoning marginal saving equal to average in the long-term trend, and perhaps twice as great, or more, in cyclical fluctuations. Goodwin's essay (mentioned below) contains a way of separating cyclical and trend marginals (p. 125).

L. A. Metzler traces three lags in the circular flow of income, which have been incorporated in simplified cyclical models and which appear to him to be the principal lags, or the principal ones accessible to measurement by present unrefined techniques. There is the lag of consumers' expenditures behind income payments (associated with D. H. Robertson), the lag of output behind change in volume of sales (associated with Eric Lundberg) and the lag of income payments behind changes in output. His principal conclusion is that the first lag is short, relative to the second.

Some other time-relations may be important, including those complicated by increase or decrease of inventories or fixed investment, which may disguise the lead-lag relationships. Timing of movements of costs and prices might also, it would seem, be significant.

So far, we have been considering essays that depart from typical 'neo-Keynesianism, either in basic perspective, or in introducing dynamic factors into the formulas (Keynes dealt with them outside) and undertaking to measure them. More in the orthodox line is Samuelson's essay on the mathematics of income determination. It exhibits what happens to the Keynesian theory when it is simplified by isolating the central mathematical formula and its corollaries from the context of factors that do not lend themselves to this treatment, and which Keynes handled in "literary" fashion. Samuelson starts by taking investment outright as a constant, with the result that the combined consumption-plus-investment function (in the now-familiar graphic exposition) intersects the income-line from above, creating a stable equilibrium. He then introduces an autonomous upward shift in the consumption function, by simply adding a factor a to the function as it stands. This serves to show that such an increase has a multiplier effect, just as much as increased investment does, but one wonders whether this simple mathematical device is adequate to all the possibilities of the problem.

More serious are the questions raised when "induced investment" is taken into account by making investment a rising function of income. Samuelson is still confident that this gives an intersection from above, giving a stable equilibrium. This must be conscious simplification, since his own earlier article on the synthesis of the acceleration principle and the multiplier includes explosive and oscillatory solutions. In the former, the intersection must be consistently from below; in the latter, intermittently so. To the reviewer, it seems that the relation of investment to incomes varies with time and past

changes of income, and therefore breaks down the whole static-equilibrium formula; which thus comes to constitute the chief error in the current simplified exposition of Keynesian theory.

In so far as investment responds to current income, its short-cycle response is, one would naturally assume, much more sensitive than its long-term trend response. But other factors enter in. The initial effect of a substantial increase in income, in a system which has either little unused capacity or many aging units, would be to increase investment demand so markedly that combined consumption-plus-investment would almost certainly intersect the income-line from below, destroying stable equilibrium and creating a cumulative upward movement. Is not this what regularly happens in the upswing of a cycle and in reverse direction on the downswing? The cumulative expansion cannot last indefinitely, for a number of reasons, not all of which seem amenable to treatment in this formula. For one thing, while money income might increase without limit, physical product is more restricted; and investment demand depends on physical product.

The upshot seems to be that investment cannot be treated as a simple rising function of current income alone, without doing violence to the essential facts; and that a more realistic (and dynamic) treatment inevitably introduces instability. Even without allowing for this, equilibrium comes to depend on the intersection of two lines which are so nearly parallel that the determinateness of the outcome becomes dubious (current graphic representations sometimes grossly exaggerate the angle of intersection). Samuelson saves himself by a concluding sentence, emphasizing "the violence done to complex reality by the simplified statistical abstractions of this paper." But is such a vague and general last-moment *caveat* sufficient?

He goes on to deal with more detailed problems, including the three methods of fiscal expansion, demonstrating that a dollar of increased public spending on a balanced budget increases income by exactly one dollar, and that this also applies to an increase of business investment, financed by an increase in business saving. He deals with the balance of corporate investment and saving, and with the balance of international payments; all in mathematical terms simple enough to be accessible to the non-specialist.

While Samuelson is oversimplifying his previous analyses, Richard M. Goodwin is developing them further, dealing with these matters of time-sequence, in highly mathematical fashion. He develops a "flexible form of accelerator," under which an increase in income gives rise to an increased equilibrium level for total capital, which capital would approach asymptotically (if income remained constant at its new level) with a diminishing rate of annual investment, always a constant fraction of the remaining difference between current total capital and its equilibrium level (p. 123). But this behavior of investment reacts on income, and this mutual reaction can produce an oscillatory model. Goodwin introduces constants which give nine-year cycles, each of half the amplitude of the preceding one, leaving outside disturbances to renew the oscillatory movement and keep it from dwindling to zero. As already noted, he derives independent marginal rates of consump-

tion for cyclical movements and long trends. He displays impressive resourcefulness in the mathematical handling of these dynamic relations; and leaves this reviewer behind before he gets to the point of grappling with irregular shifts in the "marginal efficiency of capital." If Goodwin's model is, as he recognizes, too mechanical to give results that conform fully to observation, the same must be true in much greater degree of Samuelson's and of simple graphic models like Bishop's diagrams of the three expansionary fiscal policies.

A. P. Lerner's essay on the burden of the national debt develops and defends the theme of "functional finance," explaining briefly the automatic check on inflation under this policy. Here he assumes that there is some level of total spending "high enough to prevent depression yet low enough to prevent inflation." He assumes that the tendency of a growing public debt to increase inequality of incomes can be offset by making added taxation more progressive; while the deterrent effects of heavy taxes on investment can be completely cancelled by full permission to offset losses against profits. Many must envy him his confidence on all these points. But a couple of pages later, he seems to have forgotten about unequal distribution, and is talking about a large debt making people in general so rich that "very little work will be done over and above that which is done for the pleasure of doing it"; at least when we get to the point where interest on the national debt is "many times as large as the income from other sources." We are warned, or promised, that we may be closer than we think to attaining this strange millennium. "In a rich country like the United States, if everybody had such an accumulation of government bonds that conspicuous consumption and display lost their significance, needs of material goods could be so simplified and reduced as to make their complete satisfaction feasible by the few hours' work that are necessary for health or may become necessary for social approbation." This combines the rather original fallacy that (unequally distributed) government bonds will make everybody so equally rich as to wipe out invidious consumption, with the older delusion that it is only this invidious element that prevents us from satiating our wants with a fraction of our present average consumption.

If this happens without heavy taxation, "nearly all goods will be free," only the taxation will be necessary to prevent inflation (by which these free goods would rise to exorbitant prices), only the taxation would be a worse evil than the inflation. And functional finance will prevent us from reaching this point, thus leaving the reader in additional doubt as to how seriously the discussion is meant to be taken. The reviewer cannot avoid the unworthy suspicion that Lerner has been using these imaginative flights to get the reader in a frame of mind in which the author's more serious views will look sound and sensible by comparison. If so, the effect on the present reviewer was the reverse.

Finally, Lerner argues that increased private debt is on all fours with increased public debt in the effects just discussed, sidestepping the fact that private investment creates salable goods directly and is financed out of the

prices charged, these prices taking the place of the taxation which Lerner argues would still be necessary to prevent inflation. Lerner's contention that "public investments may be just as useful in increasing future output" does not seem to meet the case. If they were useful *in the identical way*, they would not have the peculiar effects which Lerner had previously discussed. Once more, the reviewer confesses inability to take this argument seriously as an element in the pros and cons of functional finance.

In closing, Benjamin Higgins' discussion of secular stagnation may be mentioned. He gives a non-mathematical treatment, but rather handicaps it at the outset by a hypothetical diagram in which he compares the trend of gross national product at full employment and its actual trend, over a period of three Kondratieff or 17 Juglar cycles. The full-employment trend is a growth-curve, the "actual" trend is a less steep growth curve, starting above the former and ending below it, the intersection marking the beginning of "stagnation." This seems to be a basic error, because the actual trend strikes an average between cyclical troughs and peaks, and therefore is bound to fall below full employment, on account of cycles alone, even if there is no stagnation. So it seems that secular stagnation, if it comes, cannot be represented by any such simple device as the intersection of these two lines. By this device, the only condition that would *not* register as secular stagnation would be long-continued over-employment due to war or some other emergency.

In order to show an hypothetical period in which stagnation has not set in, Higgins starts his trend-line for actual employment fully 50 per cent above full employment! And the highest Juglar peak included in his first Kondratieff cycle is about 90 per cent above the full-employment trend! This appears to be a *reductio ad absurdum* of this diagrammatic notation, which is adapted to proving that any condition that could ever occur is one of secular stagnation.

At this point the reviewer wakes to the realization that he has given some individual mention to all but four of the sixteen essays. Feeling that the review must close, he presents his apologies to Messrs. Alexander, Musgrave, Perloff and Stettner. Despite a disquieting number of errors, it seems to the reviewer that Professor Hansen may well be gratified by the number and varied ability of the essays which are joined in this tribute. As a perspective of the present state of Neo-Keynesian economics, the volume shows a few useful deviations from what can fairly be called the orthodox Neo-Keynesian orientation and emphasis, and a larger number of useful dynamic developments and quantifications. The accompanying drawback is a tendency to be content with what can be done by mathematical formulas or diagrams, sometimes vastly oversimplified. Along with this goes a large amount of Keynesian discipleship that is more orthodox than the master. This was inevitable; and the tradition may outgrow it in time, if the constructive trends continue, of which this volume affords promising examples.

J. M. CLARK

Westport, Conn.

Democracy and Progress. By DAVID MCCORD WRIGHT. (New York: Macmillan. 1948. Pp. xvii, 220. \$3.50.)

Professor Wright has written the best defense of private enterprise we have seen. It is not a plea for *laissez faire* and the good old days—far from it—nor for the retention of capitalism “as is” without reconditioning. It is an argument, brilliant in many respects, for a flexible capitalism capable of adjustment to changing conditions.

Defense of private enterprise or any other system must be based on value-judgments. After ten years of reasonably “pure” economic analysis, Wright has concluded that “the man who wishes to avoid nonsense cannot study social policy on a technical level alone.” He has discovered that economic processes involve more than the price system, and that economic analysis cannot cope with the basic problems of economic life without attention to the sentiments which motivate it, as well as to the rational instrumental judgments which shape its policies.

He is fortunate in having made this discovery in so short a time—possibly as a result of his earlier training as a student of architecture. Many older economists have never made it, and many younger ones will not, so long as the present prestige of “objectivity” and mathematical analysis,¹ and our present narrow training of economists, persist.

Wright’s central thesis is the familiar one that all our liberties, including political democracy itself, depend on the preservation of the profit system, although he nowhere expresses the idea as baldly and naively as does most business propaganda. The competitive system, he says, is not in itself a guarantee of democracy and progress, but it is an overwhelmingly necessary condition for them. Capitalism is the only system we dare trust, and we would better not risk throwing the baby out with the bath by going in for comprehensive planning, swallowing Keynesianism whole, or uncritically accepting a New Dealish evaluation of security and equality.

Private enterprise, the argument runs, is the system demonstratedly the most favorable to scientific research and technological innovation, and therefore to material progress (bigger and better gadgets?); to alternative job opportunities for the worker—a condition given great emphasis as essential to economic and therefore to political liberty, and one which involves not only avoidance of government planning boards but also reform in trade union policies; and thence to “democratic opportunity” through the beneficent action of rivalry and competition (suitably divested of their more unlovely aspects). It is futile to suppose that planning and free enterprise are compatible, for comprehensive planning through authoritative government boards would reduce private business to an empty shell. It would put us under the thumb of a self-perpetuating bureaucracy, which, by its inevitable antipathy to technological change and innovation (since they would upset production and market forecasts and budgets) and its discouragement of risky investment, would result in a stagnant economy. Put in these general terms, the

¹ This is not to imply that these do not have their place. It is merely agreement with the author that by themselves they are not enough.

argument is familiar enough, and we might conclude that Wright only reiterates the stereotyped "line" of capitalist propaganda. Such inference would be mistaken, however, for his thinking is penetrating and independent, though his emphasis on invention and risky new ventures indicates the influence of Schumpeter. The book may well give pause to any but the most uncritical advocate of the Administrative State as well as to the equally uncritical disciples of Hayek and the invisible hand.

The last two-thirds of the book is devoted to a critical but somewhat sketchy consideration of well-recognized economic issues—instability, competition and monopoly, distribution of income, saving and investment, isolationism and tariff barriers, and the policies of organized labor. All through the analysis runs the case against comprehensive planning. On the other hand, the "friends" of private enterprise who oppose government regulation on principle are pointedly regarded as among its worst enemies. Wright shares the opinion of the more intelligent business leaders that the profit system must be made to work better than it has in the past, if it is to survive. It needs various readjustments. In refusing to scrap it for a streamlined experiment, Wright is aware that it is up to its defenders to show what can be done to make its performance reasonably acceptable, but he wisely refrains from offering a formal blueprint.

He contrasts two types of policy: the conservative, with its tolerance of private monopoly, its indiscriminate emphasis on government economy, and its high-tariff isolationism; the other, the "ultraliberal," a policy of "guided capitalism," which for brevity we may associate with the New Deal and the policies of the British Labor Party. He will not stand on either platform, but he takes some planks from the ultraliberals, while some of his ideas, particularly his opposition to progressive taxation, carry the odor of reaction.

The two main defects of capitalism are monopoly and instability. The aim of anti-trust policy should be the preservation of technological creativeness and economic democracy, the latter meaning fair competition and a chance for the little fellow. To this end, he advocates monetary policies to keep fluctuations within bounds, credit facilities for enough small business and independent firms to keep big business from becoming either stagnant or oppressive, restriction of mergers by purchase, and finally, revision of the patent laws. There is little in all this to question seriously, especially if one belongs to the school of sentiment which feels that small businessmen are *ipso facto* better citizens than captains of industry. Apparently, Wright is not impressed by the possible hazard to democracy from the pressure-group methods of these same little men organized.

The gist of his discussion of business cycles is that a planned economy could not remove industrial fluctuations unless it were willing to hold back new inventions and refuse to satisfy consumer wants promptly. In any economy in which growth and change are not checkmated, he holds, a certain amount of instability is inevitable. "An industrial society without a stabilization problem is likely to be an industrial society without economic freedom." So long as there are new inventions, new commodities, and resultant changes in consumer demand, the forecasting essential to a planned economy would

meet with insuperable difficulties. Stabilization would be bought at too high a price if it required us to curb our desire for the new look and the latest gadgets as soon as they appear on the advertising pages.² In a word, comprehensive planning would either have to restrain runaway demand, inferably by rationing and priorities—which most people do not like and which Wright therefore rejects—or it would have to retain many of the wastes and stabilize only by techniques already available.

He holds, however, that if we want a tolerable level of security, we cannot let inflation and deflation go their devastating way. His pragmatic solution is a "filling in" policy, a combination of timely pump-priming and continuous government expenditure for certain needed social services. If this sounds like an extract from the New Deal, no matter. It is practical Keynesianism, for the multiplier is just below the surface. "Suppose we undertook to rebuild the slums of every city. Would that not make a tremendous demand for durables and inject large amounts of purchasing power?" If this increased the government debt, so what! The significance of the debt is not its absolute size but its size relative to the national income. This may sound naïve, but we are spared the cliché that the debt is not really a debt, since we owe it to ourselves.

He has no use for egalitarian philosophy, and no fear of great fortunes, because it is "only three generations from shirtsleeves to shirtsleeves." Considering the dominance of the corporate form of business organization and the prevalence of family trusts, reiteration of this shopworn myth must be attributed to wishful thinking. Rather than try to increase consumer demand by redistributing income, he holds, we should encourage saving, investment, and production; but in Chapter 10 his brilliant argument for free international trade is based on the expectation of surplus savings in this country. As an outlet for them we shall have to have investment abroad. Does, then, capitalism require some kind of economic imperialism? Whatever the answer to that question, Wright does not look far enough ahead to consider what outlet for redundant savings we shall have when the backward countries are industrialized.

It would be difficult to arrange Wright's specific recommendations into a neat pattern. The book surveys too much territory, comes too hot off the bat, and is far too short to deal adequately with the implementation of his reforms or to integrate them into a consistent and logical whole. It has both the merit and defects of pragmatism in general. Dealing in compromises between values which if taken as absolutes may be incompatible, and concerned with differences of degree more than those of kind, his views seem at times disconcertingly ambivalent. This puts the critical reader on the spot, since he cannot be sure that he is interpreting the author fairly and accurately. Indeed, accuracy is an anomalous concept in connection with pragmatic compromise.

Wright holds, for example, that literal equality (which, so far as we know,

² But see his incidental reference to "false obsolescence," produced by excessive advertising, p. 122.

outside of Russia, nobody since Babeuf has advocated) would be impossible without abolition of the family. Hence, all we can do is to provide a "fair" rather than an equal start in the competitive struggle which is life. But can anyone define a "fair start" any better than a "fair wage"? Wright touches on race, but not sex, discrimination. He does not consider regional differences in resources, or the historical process which have made some cultures rich, others poor, in opportunities. What would he do with our own poor South, unable to finance a fair start for all its too numerous children? Federal aid for their education must be paid for by the productive workers of more prosperous regions. He would doubtless vote for this, since he says that "an adequate approach to equality [equity?] of opportunity undoubtedly requires great government outlay" for health, housing, and education; but to do so he would have to forget, *ad hoc*, his aversion to use of the tax power to lessen extremes between incomes. There is some point in his argument that progressive taxes, unless small new firms are granted sizeable exemptions, hamper the rise of the new man and the new enterprise; but what is the difference between taxing individuals according to their ability to pay, and taxing well-to-do parts of the country, like New York and Virginia, to provide better health and education in the Deep South?

Logical difficulties of this kind, giving rise to inevitable ambivalences, are characteristic of any pragmatism. The pragmatic approach, indigenous in Anglo-American gradualism, is the only method of progress we dare trust. A pragmatic culture has the faculty of gradually correcting inconsistencies, not merely through "drift" but through conscious modifications in the adjustments between its fundamental valuations.

Various contexts indicate that by "comprehensive planning" Wright means some form of collectivism.⁸ He takes insufficient care, however, to distinguish between comprehensive planning and the piecemeal planning necessary for the implementation of reform measures. If his thought appears on occasion a bit vacillating, it therein exhibits a characteristic of all instrumental pragmatism attempting to deal with an extremely complex situation. In steering between Scylla and Charybdis, it at times has to cut pretty thin. Wright himself notes that "the line between stabilizing the economy and setting up an over-all direction of it is extremely tenuous" and that "the two policies are easy to confuse." He might well have added that our ultraconservatives do their best to produce this confusion by branding every proposal for government aid or regulation a step toward the police state.

Specific recommendations for piecemeal reform are often less significant than the social philosophy—the system of value-sentiments—which lies back of them. Almost any liberal economist could draw up a list of remedial measures, which would differ from Wright's mainly in emphasis and detail. Likewise, almost any critic could find numerous points at which to disagree, both as to specific ends in view and as to the practicability of their imple-

⁸ "We will call comprehensive planning . . . the type of system . . . in which the general over-all pattern of development is planned and licensed in advance by a unified group of 'experts'—whether businessmen, bureau chiefs, or commissars" (pp. 3, 4).

mentation. Such criticism would be of secondary import. The main significance of the book lies elsewhere—in the first five chapters, in which the author posits the fundamental values he thinks an economic system should serve, and which, he believes, can be effectively served only by the profit system.

The economist who gets off the range of mechanical price analysis must realize that he is entering the still inadequately explored field of the psychology of motivation (needs, wants) and values,⁴ with which exchange and exchange value have only indirect connection and sometimes none at all. Attempts to fuse economics and ethics,⁵ to be even measurably successful, must be based on a general theory of human needs and their corresponding values. Judgment as to the effectiveness of a social system is essentially job analysis, in which the first and absolutely essential step is to identify, or to posit, the end or ends to be served by the system. Both economics and ethics in the last analysis are concerned with ends and means, with human beings and their resources. The resources are instrumental values. By themselves they have no significance or importance. The ends are intrinsic values, internal to the individual human being as states of feeling—at the level of consciousness, pleasurable experiences (satisfaction), or in a given situation the least unpleasant experience available. Instrumental values may stand in unmediated relation to intrinsic values—for example, the objective *condition* of freedom in relation to the subjective *sense* of freedom—or they may be far removed as stepping-stones, way-stations (John Dewey's "ends-in-being") in a long, complex chain of instrumental processes.⁶

Intrinsic values result from, or rather are, the satisfaction of needs, or wants, which constitute the "drives" to human behavior. No organism is ever more than momentarily in equilibrium, since it is subject to continually recurring needs or lacks. Its behavior is a constant attempt to maintain or restore equilibrium—organic balance on the physiological level, peace of mind on the psychological plane.⁷

⁴ It may be asked why "utility" would not be a more appropriate term. The answer is that utility, as thought of in economics (if the term is used at all), is always something external to the individual, as instrument to his "satisfaction." The satisfaction has importance or "value" in itself, without other *raison d'être*. Not so the instrument. In any case, the extensive philosophical literature on "general value" has avoided the term utility, and popular usage of late has followed suit.

⁵ By way either of an economic interpretation of ethics or an ethical (welfare) criterion of economy.

⁶ The best analysis of the nature of intrinsic and instrumental values with which the present writer is acquainted is given in the closing chapters of C. I. Lewis's *Analysis of Knowledge and Valuation* (La Salle, Ill., 1946).

⁷ A "want" or a need in this connection is a state of organic or psychic disequilibrium or restlessness. It does not necessarily produce a desire. In the terminology of present-day psychology, want and need are synonymous, and the psychologist avoids the economist's indeterminate distinction between needs, comforts, and luxuries. Organic or psychic equilibrium is the key postulate of C. Reinold Noyes' recently published painstaking and laborious analysis of the mechanism of human behavior. (See his discussion of "homeostasis"—his term for equilibrium—in his *Economic Man in Relation to His Natural Environment* [New York, Columbia University Press, 1948], Vol. I, pp. 29 ff.). A similar approach is followed by H. A. Murray, *Explorations in Personality* (Harvard

Scratch a "scientific" economist, and under the epidermis of his objectivity and rigid logic you will find a layer of welfare sentiment; that is, you will find a *man*, however loath *qua* scientist he may be to admit it. Every man is a welfare economist in a broad sense, though the welfare which concerns him may be only his own or that of the people with whom he prefers to associate because they "feel" (have the same sentiments) as he does. Wright, of course, is a welfare economist, in the more usual and reputable sense.

Welfare, however, is a slippery concept, and may be a weasel word. To mean anything as the aim of social policy, it must be given content, which in the final analysis must be the intrinsic values, the satisfaction of needs, the sense of well-being which comes with the recurrent restoration of organic or psychic equilibrium. The sixty-four dollar question is to what extent, if any, the basic needs can be identified by scientific research and empirical knowledge, or, on the other hand, how far needs—especially the "higher" moral, cultural, and esthetic needs which social policy should serve—can be posited only on grounds of sentiment and taste. The significance of this question is obvious: to the extent that needs can be empirically verified, something like a science of welfare is possible, but to the extent that they are posited by sentiment, welfare is a matter of subjective social philosophy. In the latter case there will be as many (frequently conflicting) "welfares" as there are cultures, for a social philosophy is an ideology, or system of valuations, and the relation between culture and ideology is a reversible reaction—a mutual cause-and-effect relation.

Inability to identify needs by any criterion other than subjective sentiments has been the rock on which welfare economics has repeatedly come near foundering. How can there be universal agreement on the content of welfare, in view of individual differences and conflicting cultures? It is a temptation to conclude that evaluation of the various intrinsic needs and values must necessarily be made by feeling or sentiment.⁸

Wright apparently shares this view, in his evaluation of science and the scientific method. In an early chapter he puts science on a pedestal because discovery and invention are the bases of the higher material plane of living which is "the one goal common to all factions in America today," but he later knocks science off the pedestal, because "scientific method, from its very nature, has almost nothing to say on the really important problems of life." This idea, common enough, that science can have nothing to say about end-values is reflected in the current best-seller anti-intellectualism which finds religion the only way out of the mess we are in; but it is untenable, at least so far as the basic survival and health (physical and mental) needs are concerned, as Wesley Mitchell pointed out twenty-five years ago.⁹

Psychological Clinic, 1938, reissued 1947). Murray subsumes the process of needs-satisfaction under the Second Law of Thermodynamics.

⁸ The present writer was inclined to this view some years ago in an article reviewing J. A. Hobson's *Economics and Ethics*. See "On the Content of Welfare," *American Economic Review*, June, 1931.

⁹ "The Prospects of Economics," in *The Trend of Economics* (1924).

Survival and health are prerequisite to the higher values—though Max Handman once remarked to the writer that there would be no lyric poetry if there were no neurotics!

Be this as it may, physiology, neurology, and the other organic sciences are supplying us with growing and increasingly accurate knowledge of the physical needs and biological drives; and psychology and psychiatry, while young sciences, give us even now sufficient empirical understanding of motives and attitudes to distinguish between those compatible with normal personality and social peace and those that are not. On the other hand, while science may reveal to us the influence of these primary drives on our simpler value sentiments, it is difficult to see how it can be a capable and accepted guide to the higher complex cultural values. Given time, perhaps it can; but just now, time is of the essence. Under threat of nuclear fission to survival itself and to the values which give survival meaning, not only an unusually large percentage of the public but some of the scientists themselves (though apparently not the psychologists) are turning to religion. Such escape is always sought in periods of *Sturm und Drang*. Possibly some hope for positive construction lies in this direction, but we could have more faith in it as a world unifier of sentiment if someone would show us how it is any easier to get a community of sentiment between the religion (or the ethics) of Marx and that of Christ or Mohammed than to reach a common standard of human welfare through science. Despite the present impasse,¹⁰ we are perhaps in the long run more likely to make progress toward a firmly grounded human welfare if we see, with Anthony Power, that "the greater the knowledge of science [given freedom of research], the greater the chance of scientific thought presenting an irrefutable and universal logic governing every field of activity and leading to the establishment of a sane world order,"¹¹ than we are if we rely too confidently either on supernatural guidance or on the intuitional insight of *Geisteswissenschaft*. At least, Wright might consider revising his idea that science can have nothing to say about the values constituent of human welfare. If economists in general would permit themselves more access to the empirical knowledge available on the psychology of motivation, they might be less confused and less dogmatic about the alleged absence of any relation between economics and ethics; but that would require them to tear down at least one watertight bulkhead in their mental hold.

It is not Wright's purpose in this book, however, to speculate on the possibility of a universal ethics or on science *versus* sentiment as basis for definition of welfare. Only incidentally does he touch on the problem of international peace, although peace, as essential to durable security, is certainly a fundamental value. He is concerned, rather, in analyzing the internal dangers which he believes threaten the cherished values of the American way of life—liberty, democracy, and (with far less emphasis) security. Scientific psychology undoubtedly regards some measure of freedom and security as universal human need; democracy is a complex of values, some intrinsic, some

¹⁰ Scientific agreement is, of course, impossible so long as Russian biologists and psychologists must conform religiously to the Marxian dialectic.

¹¹ Review of Aldous Huxley's *Ape and Essence* in *The Nation*, August 21, 1948.

instrumental, less amenable to scientific evaluation. But we do not go to psychology to support these values; whatever their organic roots, they are feelings or sentiments deeply ingrained in us by history and culture—so deeply that we mean to defend them, come hell or high water. Wright would probably say that we should do everything in our power to secure peace, but that in loyalty to our own basic values we should hew to the line and let the international chips fall where they may. It would be difficult to disagree with such a view, though we may not agree with him as to the values ancillary to liberty and democracy or as to the specific policies he recommends.

Even within our own American culture, however, Wright is on the horns of a dilemma—our value conflicts. To mitigate these conflicts and set us more firmly on the road of qualitative democratic progress, like everyone else he appeals to leadership and education to discover values and disseminate awareness of them. There is, of course, nothing else to appeal to, consistently with a democratic ethic. The present writer, at least, has no quarrel with Wright's strictures on the over-specialization and over-intellectualism of our present higher education; nor can anyone question that there must be leadership in the formation and perpetuation of moral (= welfare) sentiment, or that such leadership must come from an elite of some sort.

His treatment of leadership is necessarily somewhat sketchy, but has the merit—lacking in some students of the subject—of emphasizing the fact that leadership functions through persuasion and is, therefore, not to be confused with the power of office. But leadership is unequal to the task he demands of it, the development of "better qualitative standards of democracy." He relies for such leadership on an intelligentsia composed broadly of the "religious, professional, and intellectual groups." It is a bit difficult to imagine how we can expect from groups so heterogeneous in interest and social (not to mention economic) philosophy homogeneity of value-sentiment or agreement on social policy, though the threat of the atomic bomb may prove a powerful influence in diminishing the amount of energy which leaders, moral and political, habitually spend in combating one another. We shall do well, perhaps, not to expect too much too soon from either education or leadership, so far as agreement on the content of welfare (especially *whose* welfare) is concerned. Fortunately, the house of life is not built on a one-story plan. It is a far cry from the primary drives to the complex interests of the civilized man. Within a democratic and liberal culture, it is not only permissible and desirable, but inevitable, that the "higher" hedonic needs and interests should vary from person to person, group to group, and region to region. Without such variation, democratic culture might degenerate into the stale, dead-level of mediocrity, to the suppression of certain well-recognized personality needs, for example the need for status, recognition, distinction; and for variety of new experience.¹² Herein lies a deep significance of personal liberty—involving the right to be different as well as the right to "belong." Herein,

¹² Bearing on this line of thought is Wright's defense of rivalry and the competitive selection of ability. One may harbor some doubt, however, about go-getter ambition as a builder of "democratic character."

too, we may find the value of tolerance and forbearance, a certain pragmatism in moral sentiment and instrumental judgment, even as to the amount of economic planning compatible with democracy and liberty.

Some comment should be made on Wright's conception of progress. While capitalism, through the freedom it accords to science and invention, is the system most favorable to material progress, progress as "social betterment" involves moral and esthetic values. The aim of progress in general is not a fixed static ideal; it is "continual development" or "an ideal process of variation." The implication is that it is development towards "personal freedom and democracy of aspiration." Aspiration for what? Early in the book, it appears that most people are interested primarily in the material standard of living, and in the discussion of economic instability the profit system is praised because it gives the consumer what he wants when he wants it; but in Chapter 3, "The Meaning and the Method of Democratic Progress," in a passage remindful of Carver's "workbench" philosophy, we are asked to limit our wants. Our goal should not be the ending of competitive acquisition, but "the competitive acquisition of nobler things in a nobler way." "Not satisfactions but better wants" is the aim of social progress. Paramount among these better wants or drives is the "inventive-creative" urge. "The aim of creation is the creation of a creative world." This is sheer nonsense—or would be, did not Wright define a creative world as one "in which the loftiest and most satisfying¹³ creative impulses of the human being can be expressed." Here we escape hypostatization of a process into an end only by plunging into unadulterated subjective relativism. For who is to say what the "loftiest" or "noblest" desires are? Apparently Wright, the artist, for one, since on page 197 we are told that "the philosophy of life which the writer believes to be most fundamentally democratic, and the one hitherto most congenial to the modern man, is the philosophy of the artist—the searcher."

On what empirical evidence he assumes (p. 24) that "the inventive-creative urge and the ideal of continued development are more likely to appeal to the democratic mind" is not stated. Our impression is that most people are far less interested in "creation" as a process than in its results. Even among the elite, the scientist hastens to nail down the credit for a discovery he has made, the inventor loses no time in getting a patent, and the artist—however much he declaims on "self-expression"—sooner or later holds an exhibition.

Wright knows that "schools" of art and "academies" of intellectuals tend to discourage originality, and he is convinced that planning boards would similarly obstruct technological innovation. It does not follow, however, that all innovation, either technological or esthetic, is necessarily progress toward "better wants." It is not yet clear, for example, that television will prove either a moral or an esthetic advance—and there are some uncultivated dolts who prefer Rembrandt to Picasso. Wright's high valuation of technological progress is a reflection of the psychology of our current machine culture. One suspects that he has unconsciously erected his own personal artistic drive into a universal need, and therefore calls it democratic. One wishes that he

¹³ Although he has just said that satisfaction is not the goal of progress.

would offer some suggestion for enabling the millions of routine factory workers to satisfy this urge, if it is as essential to their welfare as he apparently thinks.

There is no similarity between Wright and the ass between two haystacks who starved because he could not decide which one to eat from. Wright knows what he wants—freedom for the creative urge—and his hunger for that sends him at once to the capitalistic stack, though he knows that there are nettles in its hay. The creative urge is, in fact, the pivot on which his whole defense of private enterprise turns. His argument that comprehensive planning would stymie that urge is arresting, but it is inconclusive. There is insufficient evidence; the case is not proved. Yet there is logic enough in his fears to make us cautious (to say the least) of the innovation of a planned economy, even though we may theorize that when we become civilized enough and are more equal to the exceedingly complex job of managing our own public welfare, the present system of delegating that management on a commission (profit) basis, like the old tax-farming system, may be superseded without loss of any eternal values.

A. B. WOLFE

Ohio State University

Dynamique Économique. By RAYMOND FLORIN. (Soissons: Imprimerie Saint-Antoine. 1948. Pp. vi, 115. 500 fr.)

M. Florin's essay in economic theory deals with the response of entrepreneurs to changing conditions and the effects of these responses on the equilibrium level and on the occurrence of disequilibria. The methods are those of marginal analysis, and mathematical notation is used fairly freely. Not only the differential calculus usually associated with marginalism but also and especially, the integral calculus is employed, the latter arising out of the evaluation of assets by discounting future returns.

The reviewer owns to some difficulty in fairly evaluating M. Florin's contribution for two reasons. In the first place, the bulk of the results are very familiar to the English-reading public through the work of Fisher and Keynes, but the author claims independence of all economists since Böhm-Bawerk (though there is a brief slighting reference to the two first-mentioned authors on page 25). In the second place, the author has adopted the somewhat unusual procedure of publishing a first edition which is not complete; the table of contents lists four chapters which do not appear in the text but which are promised for a later edition. Among other topics to be dealt with in these chapters are all issues of policy, the theory of international exchanges (including a tantalizing heading, "nécessité d'une balance commerciale déséquilibrée"), and the role of wage rigidity in crises.

The first part of the book is devoted primarily to definitions. Of chief interest is the remarkable attempt to avoid the problems arising from the existence of many commodities by means of Divisia indices of price and quantity. The interpretation of subsequent formal developments depends very heavily on the assumption that a Divisia index of output is truly a

measure of variation in physical magnitudes alone, independent of price variations. That this assumption is too facile is evident from the recent papers of Klein, May and Nataf in *Econometrica*. Another case where the author realizes difficulties but resolves them inadequately is the brief discussion of the measurability of utility on page 7. We need only demand, says the author, that utilities be comparable in the sense of more or less; but on pages 76-77, he speaks unhesitatingly of the diminishing marginal utility of stocks of money.

The second part deals with a capitalist non-monetary economy. For such an economy, he finds that, in equilibrium and at the margin, the rate of interest is equal to the sum of the following three magnitudes: the profitability in current prices of the best unit investment measured in current prices; the relative rate of change over time of the price of the best capital good as compared with the price of all capital goods; and the relative rate of change of the price of all capital goods in the current standard of value. The last term is nothing but Fisher's "appreciation," and the whole proposition seems to be a restatement of Fisher's that in equilibrium the rate of return over cost at the margin equals the real rate of interest. There is one important qualification, however. For Fisher and Keynes, the rate of return over cost (marginal efficiency of capital) is defined as that rate of discount which, applied to all future returns from the asset, will equate them to the current price of the good, while M. Florin considers only the current return from the use of the asset and the speculative gain in the immediate future. Under the assumptions of perfect competition and subjective certainty in expectations, M. Florin is unquestionably correct. But what Fisher and Keynes may have lacked in logic was probably more than compensated for in realistic observation. It appears to be true that entrepreneurs take into account the productivity of capital goods in the future before purchasing them. In the marginal logic, this can only be explained by assuming imperfect conditions in the market for used assets or uncertainty as to prices in the near future.

It is to be noted that the profitability in current prices of a unit investment measured in current prices is a quantity the value of which is independent of the standard of value; the same is true of the relative rate of change over time of prices of new capital goods with respect to prices of all capital goods. The sum of these two quantities is taken by M. Florin to be essentially a technological fact, though this interpretation is certainly open to serious doubt.

With the aid of the above-mentioned relation between the rate of interest and the marginal productivity of capital, the author derives a formula for the value of a capital good by discounting its future returns. On these bases, he argues from an assumption of diminishing marginal productivity of capital goods to a historical law of falling profits in periods of unchanged techniques. Much as Ricardo and Mill, the author foresees a period when investment ceases and the interest rate drops to zero. Unlike these classical authors, however, M. Florin regards this period as a very desirable goal, for output will be at

its maximum while the vanishing of the interest rate means that labor will receive the entire net output, thus solving all social questions. "Le problème économique que notre siècle a à résoudre est de franchir cette marche au seuil de l'âge d'or" (p. 68). It is overlooked that the vanishing of the interest rate means that the value of land, at least, will become infinite, so that the share of the capitalist will not vanish though it may take the exclusive form of rent.

In the third part the author considers a monetary economy. The most important consequence of the introduction of money is the Keynesian proposition that the rate of interest is determined as the marginal utility of holding the stock of money actually in existence. The utility of holding stocks of money arises (pp. 76-77) from imperfect foresight and the costs of obtaining credit or liquidating assets on short notice; this assumption is inconsistent with the subjective certainty and absence of transfer costs assumed elsewhere in the work, but the inconsistency is a common one (*cf.* the work of Professor Hicks or Dr. Lange). The rate of interest is taken to be proportional to the volume of output and to the price level and inversely proportional to the stock of money. This is a purely empirical assumption for which no evidence is offered. These results are combined with the formula for the value of an asset applied to money to express the price level of output in terms of the anticipations of total output, stock of money, and interest rate. The behavior of the price level over time is then studied under various assumptions as to expectations and realizations; the variety of results obtained suggests the need for a more general theory. The same analysis is also applied to find the effects of taxes on investment and on money. The latter, under the assumption of static expectations, will lead to an unchanged rate of interest but a rise in prices proportional to the ratio of the tax rate to the original rate of interest.

The author concludes with some remarks on the nature of economic disequilibria. In essence he suggests that they arise essentially from a discrepancy between the marginal productivity of capital and the real rate of interest. Although the discussion is not too explicit, the impression derived is that the author expects them to arise from unanticipated changes in productivity, very much along the lines of Schumpeter's theory (see p. 96), combined with the incorrect adaptation of wages (p. 110).

The reviewer noticed only two slips in mathematical reasoning: On page 22, it is asserted that a certain function possessed a derivative since it was continuous, which is not sufficient. On page 96, it is asserted in effect that a certain infinite integral converges because the integrand approaches zero as its argument approaches infinity; actually, the latter is neither a necessary nor a sufficient condition for convergence. Neither error had serious consequences for the main argument.

KENNETH J. ARROW

*Cowles Commission for Research in Economics,
University of Chicago*

Volkswirtschaftslehre—ein Abriss der wichtigsten Lehrmeinungen. By RICHARD KERSCHAGL. 3rd ed. (Vienna: Manzsché Verlagsbuchhandlung. 1946. Pp. xii, 208.)

This is one of the first books on economics to come out of postwar Austria. Though intended to "introduce the beginner to the main questions of theoretical economics," the little volume is much more than a textbook. Like most writers endeavoring to introduce economic theory, Professor Kerschagl is confronted with the vexing problem of whether to plunge the reader into a presentation and evaluation of prevailing economic analysis or to prepare the "beginner" by giving him a background in the evolution of economic ideas. The former alternative exposes the unsophisticated "beginner" to the pitfalls of negativism by filling him with controversial discussions, and may leave nothing but a vacuum. With the conviction that "that which is can only be understood by that which was," the author chooses the second road. "A History of Economic Doctrines" would therefore be an appropriate subtitle for this book.

Professor Kerschagl, who holds the chair of economic theory and finance at the Hochschule für Welthandel in Vienna and who is the author of a respectable series of books on economic methodology, monetary economics and banking, has, with admirable conciseness, summarized and interpreted the development of major economic thinking since the mercantile era. Professor Kerschagl's arguments and discussions are by no means elementary and leave a great deal of close reasoning to the reader. The book seems more appropriate for persons already somewhat acquainted with economics than for the untrained beginner.

The author's approach is that economic thought is conditioned by the economic environment and events of the time (in this respect, perhaps similar to Eric Roll's *History of Economic Thought*), yet he endeavors to separate those economic "laws" or "truths" whose validity endures from the economic views and doctrines which are solely determined by and apply to the economic circumstances in which they are written. Though striving for objectivity, the author's presentation in some places does not escape the flavor of his own rather vague idealism.

After only a few paragraphs on pre-mercantilist thought, the first part of the book deals with the mercantilists and the physiocrats in which the connections between the then prevailing politico-economic changes and the theoretical schools are neatly worked out. There is then one chapter each devoted to a description and explanation of the classical school, the German school, the socialist theories, and the Austrian school. In a somewhat unusual arrangement, the development of monetary theories and currency systems of the respective periods are brought together in an additional, separate chapter. The modern development of economic theory is covered in the next section, and the final chapter, in the form of an appendix, contains a discussion of Austria's contribution to the progress of modern economics. A rich and very helpful bibliography and index of names of authors concludes the book.

Throughout most of the book a subtle emphasis is placed upon two broad controversies accompanying the development of economic thinking since Ricardo; one, the dispute over inductive or deductive reasoning; the other, the time-honored dilemma of individualism *versus* universalism. At times these two controversies tended to run parallel, as in the feud between the German historical school and the Austrian marginalists. Although this controversy was mainly one on method, the historical school also attacked the classicists' mechanistic outlook and emphasized the organic concept of society. This, broadly speaking, corresponds to an attack on individualism in favor of universalism. (Much of this "attack" derives from a confusion of atomism with individualism.) To the Anglo-American reader, it would rightly seem that Professor Kerschagl has devoted too much space (relatively speaking, of course) to these opposing trends as well as to the whole German romantic thought. "Universalist" ideas were hardly of any importance in the English-speaking world and the vague, semi-mysticism of the romanticists is not taken too seriously by Anglo-American economists.

The conflict, however, between the deductive and inductive approach to economics has been a real one and is again conspicuous today (especially in the United States). The Austro-German "Methodenstreit" was resolved, after the "quarrelers" became aware of the fact that the two methods stand not in opposition to one another, but rather complement each other—a realization to which a few of our contemporary economists have, unfortunately, not yet come.

Although he strives to refrain from value judgments and subjective observations, the author is not always successful. For example, his personal lack of sympathy for current socialist thought and systems is unmistakably apparent in his chapter on socialism. He divides the development of socialism into three stages:—Utopianism, Marxism (scientific socialism), and finally socialism as an ethical postulate (or religion, in the broadest sense of the word). Socialist experiments, so we are told, may have succeeded in attaining equality of the masses, but they failed to produce economic betterment. Primarily because of this failure, modern socialism (the third stage) puts the goal of economic betterment into the background and considers its first task that of the salvation of the proletariat from the economic and moral yoke of capitalism. "Socialism becomes an ethical duty, a sort of religion . . ." which strives toward a new social order, not necessarily of economic progress, but in which all power is simply shifted to the working masses (p. 40). There seems to be little doubt that these remarks are intended to refer to present-day communism and Stalinism, but it is open to question whether the book, in its present framework, would not have benefited by an omission of such subjective observations.

The most serious shortcoming of the work under review is the almost complete absence of any treatment of recent developments in economic theory. There is, for instance, no mention of imperfect competition or monopolistic competition. Although Lord Keynes is treated in some detail, the discussion

does not proceed much beyond Keynes' *Monetary Reform* of 1923. The bibliography, likewise, though containing well over 700 titles, is sadly inadequate in references to recent economic works.

Although an index of authors is appended, a badly needed index of subject matter is lacking—this, despite the book's emphasis on ideas rather than individuals. (It is true that the table of contents is very detailed but that can hardly be substituted for a good index.) A few errors have slipped in. For instance, a total of about 24,000 banks is ascribed to the United States (p. 118), and in one place, Jevons is designated as an American (p. 165). These are not serious enough, however, to detract from the scholarship of the book under review.

There is no doubt in this reviewer's mind that, were the present volume more up to date, it would definitely warrant translation. The condensation of its material does not diminish the penetrating insight displayed in many parts. In addition, its particular approach and different emphasis would not only make interesting and informative reading for an English-speaking audience, but it would also provide a welcome stimulant to widen one's perspective.

JOSEPH GRUNWALD

Adelphi College

Readings in Economics: Principles and Problems. By WALTER ADAMS and LELAND E. TRAYWICK. (New York: Macmillan. 1948. Pp. xi, 520. \$3.00.)

This work is intended for the general introductory college course in economics. It can be used to supplement, but not to supplant, the traditional text or texts in economic principles and problems. Instead of an integrated exposition by a single author or several authors, the beginning student here meets many minds presenting various doctrines. The obvious advantage of this method is the ability to get firsthand the best of many statements of different points of view. The equally obvious and serious disadvantage is the unavoidable unevenness of treatment and the absence of syntheses, summaries and conclusions. To meet this deficiency, in part, the authors have supplied short continuities and introductions to their selections of readings.

Assuming the author's case for this type of introduction to economics, which of course is open to doubt and debate, the reviewer is greatly impressed by the skill with which this difficult task of selection and organization of material has been performed. The readings have been wisely and fairly selected; they give wide coverage and great variety; they stress essentials and keep within the horizon of the undergraduate. Although the book is well organized and follows the traditional pattern, it suffers from the almost complete absence of the vital body of economic theory, as developed systematically and didactically in most introductory courses. There is, however, one chart on price determination under monopoly conditions, and there are several articles on that and kindred topics.

Part One, "Principles," moves from an excellent introduction on the scope and method of economics, through production, stressing specialization, mechanization, and large-scale production, through markets, competitive

and noncompetitive, to the great issues of public control over monopoly, oversaving-underinvestment theory, and the full employment-mature economy controversy. Part Two, "Problems," features labor relations, credit and banking, business cycles, public finance and international trade. It is to be regretted that consumption is slighted. Value and distribution, the heart of economic theory, are ignored, or left to a companion text, or supplemental instruction. The reviewer feels that the material in Sections VIII and IX on credit and banking and on business cycles and price levels, respectively, should, from a pedagogical point of view, precede and not follow the earlier discussion in Part One on oversaving and underinvestment.

Sources include such famous writers and familiar quotations as those from Adam Smith on specialization, Böhm-Bawerk on roundabout production, Veblen on technology, Marx on communism, and J. S. Mill, List and Bastiat on protection and free trade. More modern writers include nearly all the great names of our own times, both in the United States and Great Britain. Alfred Marshall, alone, is conspicuous by his absence, which perhaps is another way of saying that the traditional emphasis on, or even inclusion of, value and distribution is missing. John M. Keynes, however, is represented by several excerpts from his more lucid writings, as is also John N. Keynes. For comedy relief and common sense, Mr. Dooley (Finley Peter Dunne) is revived to speak his mind on perennial economic issues. Finally, there are some useful selections from government reports, public laws (especially anti-trust and industrial relations legislation), and research studies, which give vitality and reality to the work.

S. HOWARD PATTERSON

University of Pennsylvania

Economic History; National Economies

Aspects of British Economic History, 1918-1925. By A. C. PIGOU. (London: Macmillan. 1947. Pp. viii, 251. \$3.50.)

In 1941-42 Professor Pigou, at official request, prepared this analysis of the British postwar transition from 1918 to 1925. It was designed as a set of memoranda for use in government departments concerned with problems likely to arise after the end of the more recent World War. The author had access to government files and to certain other data hitherto unpublished. He was assisted by a number of distinguished economists, including Mr. M. Dobb, Mr. D. Burn, and the late Mr. Erwin Rothbarth. The result is an unpretentious series of papers which, despite conscious gaps, presents a fresh and coherent account of the British economy in the six years after the Armistice.

Professor Pigou's essay into economic history is of interest in at least three different perspectives. First, it brings within the compass of unified analysis not only new data on the period, but also a number of specialist studies, which have appeared in other books and in the journals. Second, this volume is one of the few published efforts which attempt an inter-related account of a whole economy in movement over a short period of

time; and it is thus of distinct interest as an exercise in method. Finally, the book raises issues of comparison with present problems of British postwar adjustment and, as it was designed to do, helps to illuminate them, even by contrast.

Pigou first establishes cyclical turning points for the time period he is examining and designates them as follows: The Breathing Space, November 1918-April 1919; The Boom, May 1919-April 1920; The Slump, Summer 1920-Autumn 1922. The Doldrums, which follow, run from the beginning of 1923 to the crash of 1929, although Pigou's analysis ends with 1925. The rough and ready designation of these turning points will be the despair of analysts trained in the technique of the National Bureau of Economic Research; but they serve adequately the author's limited analytic purposes.

Within this general time framework the author examines: the course of employment; industrial production (with special reference to shipbuilding, housebuilding, and cotton exports); the breaking up of the government's wartime control system; the role of monetary factors; and finally, the course of real income and wages. In the analysis of the course of employment, the so-called Z.8 returns are valuable. These returns were based on questionnaires issued by the Ministry of Labour to employers, over the period from the beginning of the war to November, 1920. In some cases, the area covered was exhaustive, and in others the Z.8 figures represent an uncertain sample. Nevertheless, they permit a more sensitive account of the changing constitution of the working force in the immediate postwar period than has hitherto been available.

The theoretical framework which informs the analysis is that which the author developed in his more abstract writing on industrial fluctuations. The boom of 1919-20 is presented as a case in the unfulfilled expectations of over-optimism. The basis for the upswing is established in a backlog of capital investment which followed the war, much of which was once-for-all in character, notably shipbuilding and the replenishing of stocks. In explaining the downturn and slump of 1920-22, Pigou rejects a primary role for the monetary factor, which in his view responded to and then accentuated the depression. In his discussion of monetary factors, Pigou employs flexibly the vocabulary of the Cambridge cash-balances approach. His argument has evoked a nostalgic reply from R. G. Hawtrey (*The Economic Journal*, June, 1948) who contends for a more central place in the downturn for a restrictive Bank rate policy. Although theorists more recently educated may look for an approach in terms of the national income and its changing components, Pigou makes clear in a painstaking analysis the limitations of such data for the relevant years.

The postwar boom and slump was, of its nature, so international a phenomenon, and in the case of Britain so linked with export markets on the industrial side and with the New York market on the monetary side, that it cannot be fully dealt with on a national basis. Nevertheless, Pigou's account, frankly limited in its intent, is satisfying history and analysis.

In publishing this book the author was acutely aware of the limited analogy of his period with the likely sequence after the second World War.

In its final pages he draws only the broadest of lessons. Two striking differences in Britain's problem after the first world war as compared with the present position are the ease with which the balance-of-payments problem was then solved and the prompt return to prewar (or higher) levels of real wages. Most of the factors accounting for the difference are now familiar and widely agreed. Pigou's concluding chapter "The Upshot for Real Income and Real Wages" emphasizes, however, the striking favorable shift in the terms of trade from 1913 to the postwar years which cushioned the whole transition and may later have helped to lull British domestic economic policy into the inaction which characterized its course down to 1931.

Between 1913 and 1924 the favorable shift in the terms of trade for Great Britain was about 20 per cent. Real wages were probably somewhat above the immediate prewar level for the period 1920-22; and only slightly below from 1923 to 1925. Britain garnered the benefits, in cheap foodstuff and raw material prices, not only of wartime expansion in the Western Hemisphere, but also, which is often forgotten, a decade's massive investment before the war in Canada, the Argentine, South Africa, and Australia.

The decade before 1939 saw no such period of development of new areas and resources; while the wartime expansion of production in the Western Hemisphere has failed to outweigh the deterioration in supplies from other sources. Population has continued to rise. There have been complications of land reform and newly assimilated standards of food consumption. As a result, the cities have suffered serious relative disadvantage, as have countries which are predominantly urban.

It is too early, perhaps, to weigh exactly the relative importance of this imbalance in world production and prices in the years since 1945, as opposed to other forces determining the character of the European and world reconstruction problem. The evidence is, however, that this element, and its remedy, have not yet been fully appreciated.

W. W. ROSTOW

Geneva, Switzerland

Regional Planning in India. By R. BALAKRISHNA. (Bangalore, India: Bangalore Printing and Publishing Co., Ltd. 1948. Pp. 424. Rs. 20.)

The author describes this book as an attempt to coordinate locational dynamics with economic planning in order to arrive at a suitable regional plan for the economic development of India. The book falls disappointingly short of this goal, however, for the reader who considers economic development to be a broader concept than the industrial development with which *Regional Planning in India* is primarily concerned. It is disappointing, too, in its failure to appraise realistically the difficulties in the way of India's economic development, the need and desirability of which are unquestioned.

In this book the author has presented, with occasional details, a general plan involving the "substantial modification of the capitalistic system" which he believes to be a prerequisite for any successful effort in the industrial development of India on a regional basis.

After an initial consideration of location theory, the growth of industry

in India since late in the nineteenth century is discussed with particular attention to eight major and a few minor industries and their relative concentration or scatter. This section, and the succeeding ones which are concerned with the distribution of resources throughout India and with the wartime expansion of industry, will probably be of some interest to those unfamiliar with India's industrial economy. However, the discussion of concentration or scatter is in terms of outdated statistics, those for 1937 being the most recent. It is also without reference to the fact that India's total industrial population is probably not in excess of 10 million, with large-scale factory employment less than half that amount and inadequate to the needs of the country's 300 million people. Some of the author's conclusions regarding distribution of industry are of questionable practical value in the light of the foregoing.

Likewise, the writer's consideration of the possibilities of establishing industries at various points in India because some of the physical factors required by those industries can be found in such localities, minimizes unduly the difficulties in the form of untrained labor, inadequate transport, limited markets, and other factors which, until the present at least, have hindered such development or directed it to locations economically more feasible.

The author has thereafter included a discussion of the essentials of planning in general terms and of various of the plans, Bombay and others, which were advanced prior to partition, concerning the economic development of India.

The remainder of the book is devoted to a consideration of the effects of transport rates on regional planning, the need for State control of a wide area of economic activity, and the type of structure necessary in the reconstructed, largely state-directed economy, for which the author's predilection is evident at several previous points. The book concludes with a chapter on the consequences of partition written after it went to press and which in the nature of things is understandably superficial.

In this last chapter, some attention is given, however, to the need for improvement in Indian agriculture. Failure to make the point earlier and with greater emphasis is a major defect in a book purporting to deal with economic development on a regional basis. However rapid is India's industrialization, India will be predominantly agricultural for some time to come. However necessary it is to industrialize and to do so rapidly, the need for improvement in Indian agriculture cannot be ignored or long delayed. In an area with nutritional standards so low, with agricultural productivity comparing unfavorably with many regions of the world, with substantial dependence on the imports of food and other agricultural products, a widespread improvement in Indian agriculture would provide significant assistance to India's industrial advance. It is, moreover, one of the main points at which governmental assistance is essential, for private enterprise in Indian agriculture cannot effect the wide-reaching changes necessary in this field. With such agricultural development would be required improvement in both rail and road transportation, another important field for governmental effort. The multiplying effects of major and successful undertakings in these two

fields in terms of complementary and secondary employment should be far-reaching and should include industrial development, as well as other benefits.

As a practical matter one may wonder at the apparent confidence of the author in the State's ability to direct and to control so much of the economic development of India. The job to be done in that country is colossal and the talent, while of high order, must be spread incredibly thin. Statistical and other data necessary for planning on the scale indicated are inadequate and outdated. The difficulties inherent in these factors are either ignored or dismissed with little discussion.

EDWIN G. MOLINE

Washington, D.C.

Economic Systems; Planning and Reform; Cooperation

Are These Hardships Necessary? By ROY HARROD. (London: Rupert Hart-Davis. 1947. Pp. 178. 5 s.)

Ordeal by Planning. By JOHN JEWKES. (London and New York: MacMillan. 1948. Pp. xi, 248. \$3.75)

Planning and the Price Mechanism—The Liberal-Socialist Solution. By JAMES EDWARD MEADE. (London: George Allen & Unwin Ltd. 1948. Pp. xi, 130.)

These three books are evidence that the spirit of independent criticism is still alive in England. It may even be said that they are a contribution to that reassertion of faith in economic verities of which there has been increasing evidence among British economists since their release from the cramping influences of government service. Some of the difficulties in reasserting their economic faith, however, cannot be attributed to back-slidings encouraged during the long wartime silence, but are due rather to the doctrinal excesses if not actual heresies of the prewar era. Popular ideas on the unimportance of the state of the budget, on latitude to invest capital gaily regardless of the volume of savings, and on the theory of foreign trade, of which Mr. Harrod complains, may be argued to be a case of the Keynesian economics reaping where it had sown. This argument is strengthened by the fact that, while Mr. Harrod preaches that "re-education in the understanding of the basic principles of money and pricing is now needed," he will not himself re-admit the rate of interest as one of the regulators in the price mechanism. Professor Meade, on the other hand, goes a long way in reinstating interest rates as a part of the pricing mechanism, despite the fact that opening up the possibility of gains to speculators (who occupy a prominent place in his lively imagination) is offensive to his moral sense.

The central thesis of Mr. Harrod's book is that the main cause of Britain's troubles in 1947, when ground won during 1946 in the battle of recovery was lost again, was over-investment. Blame for the excessive capital outlay is placed squarely on the government, which had sponsored too many programs for the reconstruction and development of basic industries and too big a housing program, while at the same time failing to keep the capital schemes of private industry within the bounds imposed by the volume of national

savings. The consequence was "inflationary pressure," the term used by Mr. Harrod to describe an "excess of total demand over total supply at home." Employing the Keynesian analysis in terms of aggregates, he attributes this excess of demand to (or identifies it with) the excess of current domestic capital outlay over current domestic saving; and it is axiomatic that this in turn is identical with the adverse balance of current foreign payments.

The danger of over-simplification in this analysis is obvious, and it is in keeping with the Keynesian tradition. But simplicity was necessary to the fervour of the politico-economic tract that Mr. Harrod set out to write at white-heat. Although an English reviewer (Mr. F. W. Paish, *Economica*, February 1948) could claim that Mr. Harrod had seen his "major recommendations not only accepted but put into effect by the government, all within a period of four months," by the downward revision of its plans for capital creation, nevertheless the victory must appear dubious to Mr. Harrod. For his thesis was that, while another turn of the screw of austerity might be justified temporarily by the facts (if they were known), yet the adoption of a more sensible domestic policy that paid greater attention to the merits of free choice, combined with the right external policy, would hold out hope of improvement in the standard of life quicker than was possible under the policy of the labor government in its first two years. Policy has not changed and no significant relief from austerity is in prospect.

The necessity of Mr. Harrod's panegyric on the price mechanism even in a popular tract is indicative of his strong feeling on the contrast between the present system of controls and what he conceives to be Britain's real need. But it also shows to what a pass the neglect of the economic verities can bring us, when Mr. Harrod must solemnly acknowledge his indebtedness to another British economist for opening his eyes to the fact that rent restriction not only depresses the supply of unsubsidized new houses but encourages extravagance in the demand for housing accommodations!

Mr. Harrod is provocative in his examination of the international position. In the circumstances of European over-spending he asserts that the "allegation of a 'world dollar shortage' is surely one of the most brazen pieces of collective effrontery that has ever been uttered." He deals severely with the British policy that used up American dollars in releasing wartime-accumulated sterling balances and by failing to stop leakages of capital abroad. In fact he does not disguise his belief that it was dishonorable to use up the American loan by excessive capital creation at home and debt repayment abroad. Moreover, he argues ingeniously that the convertibility obligation of the Anglo-American Loan Agreement gave Britain a strong card in insisting on blocking sterling balances and that impending convertibility before July 15th "may well have saved the country hundreds of millions of pounds." But the most important point he makes on Britain's international position is the admission that in sponsoring the doctrine that each country must be free to adopt "expansionist domestic measures to maintain full employment at home" a nation may "carry out capital outlay programmes far in excess of the need to maintain full employment and of the savings of its own people." This is the first recognition by British economists, as far as I know, that the doctrine

of hands off domestic economic and social policy, which has been a British sheet-anchor in postwar international negotiations, may be inconsistent with the doctrine that good behaviour requires each country to have regard to the international repercussions of domestic policy.

His essay on "The Practical Consequences of Nationalising the Bank of England," reprinted as an appendix to Mr. Harrod's volume, may prove to be less ephemeral than the rest of the book. The anonymity that enshrouds British civil servants does not now hide the fact that Mr. Harrod was in a position in Whitehall during the war to appraise the influence of the Bank on economic policy. His judgment is that the Bank's "view may best be defined as the technician's view," and that "there may be wider objects of policy, the importance of which [the technician] is not well qualified to weigh." It would, for example, "be contrary to human nature to expect the Bank to be an enthusiastic advocate of the International Monetary Fund. It is bound to hark back to the world leadership and control which it exercised for so many decades before 1914." It is also unlikely to be a staunch advocate of a movement to free international trade but "to fall victim to the illusion that these fascinating war-time techniques [of economic warfare], handled with such art, can be applied in peace-time too." For these reasons Mr. Harrod believes that formal nationalization of the Bank was a mistake, because it "has gone far to resurrect the power of the Bank and puts it much nearer where it was before its practical dispossession in 1932."

Professor Jewkes' book is also a politico-economic tract, effective in its purpose of revealing the seamier side of planning from the British record, and kept on a high level of polemical morality. He is another wartime civil servant who, having shed his anonymity, is trying to interpret British central planning in the light of his wartime experience. His examination eschews the more technical economic analysis, and indeed this is neither necessary nor desirable for his purpose, which is to meet the advocates of planning on their own ground. Their arguments, while starting in and even maintaining a façade of economics, extend to politics and morals, and Professor Jewkes rightly believes that the "stakes are moral and spiritual." In this respect he is generous in admitting his indebtedness to Professor Hayek's *Road to Serfdom*.

There is nothing of the reactionary in Professor Jewkes' book. He accepts with approval the fact that the Keynesian economic doctrines offer "us a route towards the maintenance of full employment within a free society." He recognizes that "every sensible economy is a 'mixed' system" in which government has a part to play. But he reminds us that despite the wide acceptance of the new-fangled ideas on central planning they are of recent origin, and like most popular economic ideas they are not necessarily well-founded. He attributes the rapid spread in this case to (1) the desire to avoid mass unemployment; (2) "the growing feeling that men must be masters of their economic destiny"; (3) the belief that planning is "scientific"; (4) the assumption that State intervention can greatly increase wealth; (5) the craving for economic security; and (6) dissatisfaction with inequalities in the distribution of wealth.

The foundations of these beliefs are examined in chapters on the economic

arguments, on the characteristics of planners and planning (in which the oracular pronouncements of British statesmen are subjected to cold scrutiny), and on the moral and political features of planning. He sets up no straw men to knock down but examines the best arguments for central planning as such that he can find. His analysis shows that ignorance of the existing economic system of private enterprise, the refusal to compare its defects with the known defects in competing existing systems, and failure to look below the surface of blue-prints, all play their part in explaining the widespread appeal of central planning. Professor Jewkes destroys many economic and other illusions that contributed to the contagion of planning and he reveals central planning as a system that "ultimately turns every individual into a cipher and every economic decision into blind fumbling, destroys the incentive through which economic progress arises, renders the economic system as unstable as the whims of the few who ultimately control it and creates a system of wire-pulling and privileges in which economic justice ceases to have any meaning."

This may seem to many too strong an indictment, and it would be if it were applied immediately to Britain. But Professor Jewkes' observations confirm that the tendencies are at work. He shows that, despite the brave words of responsible statesmen about the maintenance of freedom in British socialism, the government has been pushed relentlessly to direct labor and to destroy enterprise and independent thought and criticism. The loss of liberties is exhibited by a list of petty and foolish restrictions, culled from "a casual reading of newspapers," which reflects both the rank inefficiency of bureaucracy and the "moral sickness of a planned society." It is exhibited even more strikingly by the revelation that 10,916 government officials in seventeen Ministries are "authorized to enter private houses and premises" to carry out inspections and investigations without a search warrant. It is charged that "snooping" requires a body of plain-clothed police hardly distinguishable from *agents provocateurs* and at best creates a "sordid atmosphere which . . . everywhere sets one man against another."

The moral weakness of the planned society is finally depicted in its obsession with material ends. Professor Jewkes concludes that "in the last analysis the spiritual content of planning proves to be a sham." And he contrasts the planned economy with the market economy in which "no one need ever claim that economic activity is the highest form of activity" instead of simply the means of allowing us to "get on as uninterruptedly as possible with the development of the real art of living and the discovery of those forms of human relations which will bring us the ideal society."

Professor Meade's subtitle implies that he is the socialist among these three authors. Apart from the question, however, whether "liberal-socialist" involves a contradiction in terms, it is difficult to see in what respects if any he is a socialist. His book grew out of a—presumably critical—review of a pro-planning volume by Sir Oliver Franks. He confesses that he is no planner if the latter "necessarily believes in a quantitative programme of output, employment and sales for particular industries, occupations and markets and the

exercise of such direct controls by the State as are necessary to carry this out." Professor Jewkes argues convincingly that these earmark the beliefs of the planner and socialist. Professor Meade confesses further that he is only a planner if the "anti-planner necessarily denies that the State should so influence the working of the price mechanism that certain major objectives of full employment, stability, equity, freedom and the like are achieved." Professor Jewkes would say that these objectives, properly defined, earmark the liberal. And, in fact, Professor Meade's conception of his thesis, and the showing of his whole book, confirm that whatever he may once have been his economic doctrine, is now in the main liberal.

His thesis is that "a large measure of state foresight and intervention is required to guide the economy from war to peace, to prevent inflationary and deflationary pressures, to ensure a tolerably equitable distribution of income and property, and to prevent or to control the anti-social rigging of the market by private interests, but that these objectives can be achieved in an efficient and a free society only if an extensive use is made of the mechanisms of competition, free enterprise and the free market determination of prices and output."

Unfortunately no systematic attempt is made to subject the record of the Labour government to these tests, and therefore Professor Meade's liberalism and his socialism remain untested. What stands out in his book, however, is the ethical note in his thesis. He is for "the unthrottling of the incentives of private initiative" but he dislikes the idea of "scarcity windfall profits" that may be associated with the use of the price mechanism. No attempt is made to define his concept of equity in distribution or to solve the problem of generalizing his and all the innumerable other concepts of "a tolerably fair distribution of money income and property." Nor is there any attempt to assess the total probable effect on incentives of state intervention for the purpose of removing the element of chance in the economic universe. He has too little faith in the price system to assume that if speculators can make money easily, all will want to cash in and the "opportunity" will melt. And, finally, he does not produce any support, other than a wordy and almost meaningless quotation from Mr. Atlee, for the statement that the British system represents a middle way between the communism of the Soviet Union and the capitalism of the United States—a cliché that has now worn very thin.

These features give the book, despite much good economic analysis, an air of unreality. This is enhanced by a tendency to over-estimate the practicability of theoretically *recherché* devices, such as the auctioning of import licenses as a means of diminishing the discriminatory effects of import controls, or to over-elaborate his analysis. An example of the latter occurs in the discussion of foreign trade policy, which is the best part of the book. By his dictum that the adjustments from exchange depreciation by a group of deficit countries are likely to occur (on the implied assumption that the rest of the world is small) mainly in the imports of the group, whereas those from depreciation by a small single country are likely to occur mainly in that country's exports, he gives a false appearance of contrast. Depreciation by the group of coun-

tries represents appreciation by the rest of the world, and the smaller it is the more likely is appreciation to operate on its exports (which are the group's imports) to decrease them, just as depreciation would have increased them.

There are so many good things in his analysis of the international problem that it is a pity Professor Meade is not more explicit on his own views of British policy. He does not seem to me to come out as flat-footedly as he should against discriminatory import restrictions in view of his own shattering argument against them. He even gives the impression that if Britain could get away with discriminatory monopsony it would be all right with him—which for such a stern moralist on domestic monopoly issues is surprising. I sense that he suffers from a complaint that has afflicted British policy-making for a long time, the failure to make a clear distinction between the unescapable shorter-run problem of the transition from war to peace and the ultimate aims that give meaning to the transition. He wants teeth in the International Monetary Fund to insist on appreciation or depreciation in the interest of flexible exchange rates, but he does not ask whether international obligations extend to domestic behaviour that will prevent deficit countries from getting into or remaining in that position. Yet this question will remain pertinent long after the present difficulties of European countries, whether or not they are all the heritage of war, have been overcome.

In a more subtle way the same disease prevents Professor Meade from being explicit enough on the virtues of some countries simultaneously lending and borrowing, to do justice to the importance of restoring the network of international lending. Abstracting from political considerations, Britain should be glad to borrow on longer term from America and to lend for shorter periods to the whole world. British banking as well as technical know-how is still needed. New York has not yet duplicated all London's banking skill, and the release by appropriate British government action (even if it included more liberal travel abroad) of the entrepreneurial spirit in merchant banking would pay handsome dividends direct and indirect, to Britain and to the world. But the obsession with the short-term problems that make exchange-control inevitable inhibits all thinking on the long-run problem of encouraging capital export.

Each in its own fashion, these three books exhibit the vitality of economic thinking in England and show that freedom of expression is still open to those who make bold to be critical, despite Professor Jewkes' very proper fear for independence in the socialist state. It will be a sore blow to faith in democracy if writing of this kind fails to have any effect on policy.

REDVERS OPIE

The Brookings Institution

Economic Security and Individual Freedom: Can We Have Both? By ALBERT LAUTERBACH. (Ithaca: Cornell Univ. Press. 1948. Pp. iv, 178. \$2.50.)

It is doubtless all to the good that in times such as the present when so many fundamental social and economic issues are being subjected to critical examination everywhere the general reader should have a wide choice of

popular manuals to which he can turn as he seeks to understand the heated controversies of today. Many to whom these things have been a matter for concern for some time may perhaps feel that the general issues have already been adequately and often better covered by earlier writers, and that it is now high time to go beyond the vague generalizations to which popular manuals must always of necessity confine themselves, but the young voter of today would probably find that a book written a few years ago read somewhat strangely and might prefer something bearing the datemark 1948.

A reviewer is therefore not entitled to reproach Professor Lauterbach for having induced him to spend some time in working through an analysis of the interrelated problems of economic security and individual freedom without making any notable addition to the complex of ideas and feelings which had been left in his mind by earlier reading and reflection in this field. But at the end of the process the reviewer is in some embarrassment to decide what he can usefully say about Professor Lauterbach's book. It would profit little merely to list on one side the points on which he agrees with the author, and on the other those from which he dissents. But any other course is made difficult by the fact that there is not enough tough substance in the argument to make it easy to get a firm grip anywhere, unless one is prepared merely to rehash controversies, many of which have already been worn rather threadbare.

Professor Lauterbach has a commendable sense of the urgent necessity for mankind to learn its lessons quickly, but the precise content of the lessons to be learned remains obscure. He is firmly convinced that economic security and individual freedom are not inconsistent, and rightly insists upon the confusions of thought which the uncritical use without precise definition of words like socialism and freedom often encourages, but there is no penetrating analysis of the implications of the widespread and quite understandable claims for economic security, and little help is given to the unskilled reader who is anxious to avoid the confusions of thought against which he has been warned.

The concept of social planning may, or may not, be "a good thing," but an author who repeats with approval a quotation in which it is assumed that the fact that "The Ford Motor Company plans" is relevant to the discussion is not giving the young voter of 1948 any real assistance in learning the lessons which press so urgently upon him. It should not be thought enough in 1948 to affirm that "what really matters is an effective control of organized society over economic development." The discussion of methods for making control effective, important though it sometimes may be, is essentially merely a matter of machinery. What is really important is to know what the machinery will do, and how it will do it, and on these urgent, strictly elementary questions, Professor Lauterbach offers little guidance.

A general economic plan, he tells us, would start out from a comprehensive picture of the resources available for use, compare these resources with the patterns of national consumption, and with the purchasing power available to the various groups of consumers, and then would "finally attempt to ar-

range both the use of the resources available and the distribution of national income among the major social groups in such a way that it all 'comes out' on an adequate level of supply and consumption" (italics supplied by reviewer). Such vague, broad generalizations were perhaps pardonable when discussions such as this were necessarily directed mainly to the future, but in recent years sufficient experience has been accumulated in many countries to justify us in expecting that writers in the field will take some pains to make clear the difference between statistical analyses, however ingenious and penetrating, and effective economic policies.

The present reviewer finds no difficulty in examining on its merits specific proposals for state ownership of particular industries. Until he was over twenty-five he had never seen a railway train that was not owned by the state, so that the state control of railroads does not seem to him an exciting issue. He agrees that the violent economic fluctuations of the last twenty years were scandals which should not and need not be allowed to recur. But general arguments in favor of "social control of economic life," whether or not they are defective in detail, seem to him objectionable mainly because they usually fail to direct attention to the real economic problems which confront the world today. Professor Lauterbach is aware of the danger of continuing to fight the last depression, but though our current problems are highly relevant to the relationships between economic security and individual freedom, he has very little to say about them.

ALLAN G. B. FISHER

Washington, D.C.

Stalin and German Communism—A Study in the Origins of the State Party.

By RUTH FISCHER. Preface by Sidney B. Fay. (Cambridge: Harvard Univ. Press. 1948. Pp. 687. \$8.00.)

The sequence of events which led to the russification of the Communist International and the abortive intervention in German communist affairs assume added significance in the light of Soviet Russia's aggressive expansion during the years 1945-1948. Accordingly, *Stalin and German Communism* is a valuable and timely contribution to current history of world affairs. Though this book deals with controversial issues and personalities, sinister motives and lofty ideals, which are not readily comprehensible to the American public, it is an interesting, readable history of the German and Russian communist parties from 1918 to 1929. The author is largely concerned with recording the subterranean methods used by Stalin in achieving control of the parties in these two countries and the gradual entrenchment of National Bolshevism in Soviet Russia.

During the first world war, as a young student at the University of Vienna, the author joined the Social Democratic Party of Austria and became an active leader of these "Left Radicals." The Bolshevik revolution in Russia stirred the idealism of these "Left Radicals." Shortly after the collapse of Austria-Hungary, a Bolshevik delegation from Moscow, disguised as a Red Cross mission, helped her to found the Communist Party in Austria, which

became affiliated with the Communist Third International—*Comintern*. Within a year, discouraged with the slow progress of the party in Vienna, she moved to Berlin, which she believed had become the real center of the revolutionary struggle in Europe. In November, 1921, Ruth Fischer was elected chairman of the Berlin Reichstag. From 1924 to 1926 she was a member of the Comintern Presidium, where she defended the views of the Left Opposition led by Leon Trotsky and Grégory Zinoviev. She incurred the wrath of Stalin because she revolted against the totalitarian methods to transform the Comintern into an agency of the Russian State Party. In 1926, she was expelled from the German Communist Party which had fallen into the hands of Stalinists. When Adolf Hitler seized power in 1933, she fled to Paris and in 1940 came to the United States.

World communism as currently directed by the Kremlin adds credence to the author's thesis that fascism is an aberration from communism and not its antithesis. First by imitation and later by absorption, the nazis took over the institutions, the slogans, the methods, the brutalities of the Stalinized German Communist Party. This documented study explains also that the present Socialist Unity Party in the Russian Zone of Germany is a combination of the most effective elements of its two parents: the nazis and the communists. Hence, the book is an authoritative record of some of the most significant events of our generation.

♦ Bolshevism, as envisaged and interpreted by Lenin, the intellectual godfather of communism, was fundamentally different from the National Bolshevism later expounded by Josef V. Stalin. Mrs. Fischer makes it abundantly clear also that this basic divergence was reflected in their diametrically opposed attitudes towards Germany. Lenin and his co-founder of the Soviet System, Leon Trotsky, had hoped that the real drama of the World Revolution would unfold in neighboring Germany, where the workers of the most industrialized nation in Europe would assume leadership of the new world struggle for socialism.

Lenin contended that socialism in Russia was possible only in alliance with one or more technologically advanced countries, in particular with Germany. Since Russia was a peasant country, this alliance meant specifically that the Russian peasant would be induced by the incentives that industry offered to change his centuries-old way of life, to become first a farmer and then a cooperative farmer. Moreover, in the Left Wing of the Social Democratic Party in 1914, Germany had one of the strongest and most conscious anti-war movements. But the German revolution of 1923 was abortive and Lenin died. In his place, Stalin stepped in as the apostle of a new Russian nationalism and of National Bolshevism and builder of the totalitarian Communist Party machine and of the Russian police state under the guise of proletarian dictatorship.

The history which Mrs. Fischer records, covering the period 1917-1929, is a notable addition to the contentious and multitudinous literature on the inner factional struggle for power of the Communist Parties in both Russia and Germany and for the early control of the Communist International. She

cites chapter and verse, both from memory and research, to show how Stalin transformed the Comintern and the German Communist Party into agencies of the Russian State Party and how foreign communists were transformed from revolutionists into tools of aggressive Russian nationalism and of its state policy. These events assume added significance in the light of Soviet Russia's current aggressive expansionism and of the "cold war" between East and West.

Under Stalin's direction, terrorism as an instrument of national policy to achieve and retain supreme power has become so institutionalized that it defies comparison. The coterie of men who direct the destinies of the State Party are dangerously fanatic idealists and their disciplined devotion, exemplary energy and loyalty to Russia and its infallible *vozhd* (leader) constitute the combined threat and challenge to free men everywhere. The methods employed recently to dominate Roumania, Poland, Hungary, and Czechoslovakia are parallel to those used by the Stalinist in dominating the German Communist Party. The pattern was set in Germany twenty years ago.

In presenting a systematic record of this sequence of events in its contemporary perspective, Mrs. Fischer offers valuable explanation that will help in understanding the dynamics of Soviet Russia's expansion. The preface by professor-emeritus Sidney B. Fay and the publication of this book by the Harvard University Press enhance the authenticity of Ruth Fischer's story.

CHARLES PRINCE

New York, N. Y.

Business Fluctuations

Trends in Output and Employment. By GEORGE J. STIGLER. (New York: Nat. Bur. of Econ. Research. 1947. Pp. 61. \$1.00.)

This volume is an interim review of the National Bureau of Economic Research studies of production, employment, and productivity from 1899 to 1939. These studies have now been carried on over ten years and twelve separate reports have been issued. The fields already covered are manufacturing, mining, agriculture, and gas and electric utilities. Further reports dealing with transportation and the service industries, and a comprehensive summary and interpretation will follow.

These reports include indexes of the physical volume of production, of employment, and of productivity for each of the major industry groups mentioned, and for many subgroupings, including about 150 individual manufacturing industries. While these are not the only such indexes available, they are the most comprehensive and precise.

Mr. Stigler has combined the separate indexes computed for each of the major industry groups into composite indexes and briefly analyzed their behavior. (He includes also unpublished indexes for steam railroads.) He is careful to point out many limitations of these statistics. It has been impossible to make adjustments for changes in the quality of commodities and of labor, for the shift of activities from the household to the factory, and for unem-

ployed workers "attached" to these industries. Despite these limitations, the indexes constitute the major contribution of these studies.

Of the substantive findings, the most significant is that while output in these industries tripled, man-hours of employment remained about the same. That is, with the same labor input, these industries produced three times as much in 1939 as in 1899. In view of the fact that they cover about forty per cent of total output in the United States, we have here an important and impressive measure of economic progress since the turn of the century.

The indexes show that the rise in production occurred during the first thirty years of the period covered. Output during the 1930's was relatively low; in fact, not until the last year of the decade was the 1929 level of production again reached. Productivity, on the other hand, rose most rapidly during the 'thirties. This intriguing relation is, regrettably, left for future exploration.

Two other findings may be mentioned. First, the relative importance of manufacturing among the six industries covered increased substantially over the forty-year period, mainly at the expense of agriculture. Manufacturing output advanced from about 50 to a little over 60 per cent of the total for these six industries, while agricultural output declined from over 30 to about 15 per cent. A corresponding shift took place in employment. And second, changes in productivity have been very uneven, over time and among industries. Thus, the average increase in output per worker per decade for these six industries was 14 per cent, compared to almost 50 per cent between 1919 and 1929. For individual manufacturing industries the percentage change in output per worker between census years varied from -18 to $+36$, while the standard deviation of these percentage changes fluctuated between 3.2 and 7.6 per cent.

Mr. Stigler stresses the importance of distinguishing between changes in output per worker and changes in efficiency. Changes in efficiency are defined as changes in output per unit of all the factors of production rather than the factor of labor alone. To illustrate the significance of this distinction, Mr. Stigler presents some exceedingly rough measures of changes in efficiency for broad groups of manufacturing industries. They show increases that are somewhat smaller than the increases in labor productivity. As might be expected, they indicate that changes in labor productivity are poor approximations of changes in efficiency in industries where labor costs are small relative to total costs.

This study is a welcome review of ten years of work on a major economic project. A definitive evaluation of this volume, and indeed the whole project must, however, await the publication of the remaining volumes, and particularly, the final summing up.

JULIUS SHISKIN

Washington, D. C.

Arbeidsduur en Welvaartspeil. (Hours of Labor and Level of Prosperity.)

By P. J. VERDOORN. (Leiden: H. E. Stenfert Kroese's Uitgevers-Mij. N. V. 1947. Pp. 275.)

In this new study Dr. Verdoorn, known by his *The Increasing Rigidity of*

the Cost of Production,¹ is attempting to systematize and analyze the so far rather heterogeneous elements concerning the demand for and supply of hours of work which are found in economic literature.

The author starts with an analysis of the "optimum" hours of work. For the employer, the optimum hours are those for which the weighted productivity of the marginal worker and of the marginal hour are equal. The demand for hours of work is affected by changes in (a) the relationship between the productivity of the marginal worker and that of the marginal hour, (b) marginal costs in their mutual relation, in particular marginal wages and (c) the volume of production.

Concerning the supply of hours by the workers, Verdoorn demonstrates how the curve extends from the lower right to the upper left, the horizontal axis representing hours per workday and the vertical axis the hourly wage rate. Dynamically, many factors such as the difficult-to-measure preference for leisure may give the curve a different shape.

After a historical summary on hours of labor in several countries (written by Mr. J. E. van Dierendonck), the author further analyzes the theoretical aspects. With Cassel he rejects the disutility theory because an increase of wages is usually accompanied by shorter and not longer hours. While Cassel bases this rejection also on the absence of influence of the individual on hours of labor in modern labor contracts, Verdoorn supports Frisch's point of view that in collective wage agreements an average opinion of the group of workers involved is visible.

Applying the theory of imperfect competition and using indifference curves, the author constructs more refined curves of demand and supply of hours of labor and demonstrates how different points of "equilibrium" are possible which form an "equilibrium zone."

The author, in chapters on the relations between hours of work and shortage and abundance of labor, respectively, examines the effects of changes in work hours on production, employment, income, wages and prices. Interesting statistical observations on the effect of shorter hours on labor productivity are quoted. Under conditions of high employment and shortage of labor, a choice can be made between longer hours and additional workers. In this connection the author points out the necessity for research work in individual industries. In times of acute commodity shortages, an advantage of longer hours over additional marginal workers is that in the latter case the increased wages, necessary to attract this marginal manpower, will spread to the other workers and thus enhance inflationary tendencies as opposed to the limited effect of overtime pay.

Verdoorn gives an astute analysis of the relation between labor abundance and hours of work. The effects of diffusion (spreading) of work are distinguished in primary and secondary reactions. Primary reactions concern the interrelation between hours and productivity, secondary reactions are, *inter alia*, those affecting demand for the product in question as a result of changed production costs. As an instrument of business cycle policy the

¹ Reviewed in this Journal, September, 1947, p. 675.

author would like to see a general diffusion of labor (if any, depending upon the circumstances) combined with a government subsidy to the workers. Such a subsidy should compensate the decrease in each worker's hours and weekly pay. The subsidy is preferable over fluctuating tax rates à la Hansen because the volume of purchasing power can be more accurately fixed, and a certain stability in tax rates, creating a favorable atmosphere for business, can be maintained. In many respects shorter hours are also better than public works, *inter alia*, because they can be initiated or terminated at any time, and since they can be applied where unemployment prevails and without transfers of workers to different work. Furthermore, a subsidy will have an immediate and favorable effect on consumption.

The treatment of the imperfections of the market for work hours and the "leisure preference" might—to this reviewer's mind—have been more extensive. Also, the book might have been somewhat more lucidly organized, for instance by putting the historical survey in an introductory chapter or in the appendix (which has an interesting mathematical analysis of the influence of hours of labor on productivity).

This is a stimulating book and the treatment of the subject is refreshing. It is regrettable that no English summary was provided.

JOHAN KAUFMANN

Washington, D.C.

A Creative Capitalism: Intended to Reveal Where Depressions Start, Where Lasting Cure Must Begin, and How Cure Can be Had Within the Capitalistic System of Private Enterprise. By JOSEPH E. GOODBAR and LORENZO U. BERGERON. (Boston: Boston Univ. Press. 1948. Pp. xii, 376. \$3.75.)

Three ideas in the study of economic change which have been given major attention in recent years are income flows, leakages, and secular stagnation. Starting with these ideas, differing conclusions will be reached depending on the type of simplification employed and the lines of causation accepted. These three ideas are the basic ones in Goodbar and Bergeron's book, although they never employ the words leakage and secular stagnation.

The amount of current selling price on current output is held to outrun the amounts of buying power in use by individuals. Under-disbursements by business and over-saving by individuals are said to develop in prosperity.

The authors propose incentive taxation and "safe-keeping deposits" to keep these discrepancies from occurring. Incentive taxes are to be prohibitive income taxes levied against businesses and individuals if cash outgo is less than cash intake. To permit the purchase of existing property and securities, it is proposed that the burden of expenditure pass on to the seller of such property. If no other good use can be found for funds, government safe-keeping deposit is to be available, making simple the avoidance of the penalty tax. The funds so obtained are apparently to be interest-free for two years and thereafter levied an annual charge of two per cent for safe keeping, and

are to be employed for reforestation, water control, soil conservation, and generally for resource conservation and development, but not to enter into competition with private industry.

The authors are impressed by the evidence given in the TNEC hearings that expenditures are likely to be in the magnitude of ten billion dollars short at full-employment levels. One would think, therefore, that a constant increase in the national debt should be expected, although possibly at zero interest. No mention is made of this prospect, but on the contrary, it is proposed that a five per cent tax be levied on value added to greatly reduce the war debt.

The reviewer must conclude that unlimited faith is placed in the effectiveness of incentive taxation. Difficulties not faced are the potential inflationary situation created if, as a minimum, "expenditures" must equal income, while in an expanding society, many units must at times spend much more than their intake; failure to provide any offset for the net expenditure decline which will occur with a decrease in the number of new businesses formed and an increase in the number failing. The safety valve of government expenditure on resource conservation and development, called into operation only by increase in safe-keeping deposits, could be implemented only slowly and once started not readily cut off. The reviewer was impressed along these lines when viewing Missouri Valley projects in August, 1948.

The authors have no faith in the use of advance forecasts to guide in timing public projects. It must be concluded that the probable outcome would be slowly developing public works to offset recession. Certainly if recession got under way, the incentive tax would merely drive excess funds into safe-keeping deposits.

The reviewer can but admire the authors for attempting to set up a type of control which would avoid dependence on the government and the enthusiasm with which the proposals are presented. No one can quarrel about the importance of some modicum of stability. It is indeed unfortunate, however, that the work of others was largely ignored. Particularly helpful would have been a study of Ruth Mack's savings tax, Arthur Dahlberg's deposits tax, and C. W. Hazelett's incentive tax. The failure to consult such studies possibly may be accounted for by disdain for the work of professional economists.

In spite of mistakes which economists have made, if the authors had known more about economic thought they might have saved themselves such difficulties as necessarily arise from assuming that prices are merely the result of adding up costs and a profit margin. The difficulty is particularly evident in analysis of the effect of depreciation. They say that accounting, greatly expanded by the income tax, has resulted in higher prices to allow for depreciation. This they believe is an important part of our present difficulty.

ELMER CLARK BRATT

Lehigh University

Money and Banking; Short-Term Credit; Consumer Finance

A History of Savings Banks. By H. OLIVER HORNE. (London: Oxford Univ. Press. 1947. Pp. xii, 407. \$5.00.)¹

The primary purpose of this volume is to present the history of the trustee savings banks of the British Isles. In developing this narrative the author sketches the history of other types of savings institutions and of the thrift movement. The origin and development of savings banks were contemporaneous with and influenced by the profound social changes which occurred in the late 18th and early 19th centuries. Savings banks were organized primarily to promote thrift among the poor and, prior to 1810, were usually started and supported by the charitable rich. In 1810 a savings bank incorporating mutual principles was established in Scotland. Within a few years numerous mutual savings banks were in operation in the British Isles and in other countries, including the United States.

In the British Isles, especially in England, there soon developed a demand to place these banks under state control. The first such law was passed in 1817. Subsequently, at least twelve comprehensive and several supplementary statutes were enacted. As a result of these laws the trustee savings banks (except for some in Scotland), although independent of the state, have become auxiliaries to it. The services rendered by these banks may be grouped in four categories, three of which are departmentalized.

The Ordinary Department was created by law in 1817 and is found in all trustee savings banks. In terms of balances due depositors, it has always been the most important and, in recent years, these balances have approximated 65 per cent of the total. The deposits are forwarded by the banks to the National Debt Commissioners, who are required to invest them in government securities. The banks are merely conduits! The government guarantees the return of the moneys transmitted to it together with interest at a fixed rate. Since 1888, the rate of interest paid the banks has been 2.75 per cent; to the depositors, 2.50 per cent. The difference is used by the banks to pay their expenses, which are carefully controlled by the Commissioners, and to build reserves.

Deficits and surpluses of this department are absorbed by the government. From 1817 to 1948 deficits were incurred in 85 years, all before 1909; surpluses, in 46 years. The deficits resulted primarily from the government policy, influenced by the savings banks, of paying higher rates of interest than investment returns justified in order to promote thrift. Over the entire period, however, the surplus has been many times greater than the deficit. The author questions the soundness of a policy which enables the government to profit on savings of the poor and presents arguments in favor of a higher fixed rate. No analysis, however, is made of interest computation on other bases; e.g., on basis of investment returns.

The Special Investment Department was created by law in 1828; was not used until 1847; and is currently limited, by a law passed in 1904 to the

¹ Published posthumously.

larger banks. In recent years the balances due depositors of this department have approximated 25 per cent of the total. The deposits are invested by the banks in tax supported securities of local governments; in direct and government guaranteed securities; and, since 1934, in certain corporate securities. There is no government guarantee to repay the deposits or the interest thereon. To the depositors, the advantages of this department are a higher rate of interest and the avoidance of the deposit limitation (£2,000) prescribed for the ordinary department. The activities of this department are subject to "almost unfettered" state control. Pursuant to law the National Debt Commissioners, for example, select the securities eligible for investment, give prior approval on all purchases and sales of securities, control expenses, and approve the interest rate.

The Stock Department was created by law in 1880. Through this department the banks perform the services of security brokerage firms; they, however, deal only in government securities. In recent years the balances due depositors of this department have approximated 10 per cent of the total. Through the Service Department persons may, for example, purchase government annuities and insurance, receive financial advice, and purchase railroad tickets.

Many American writers have stated that the trustee (mutual) savings bank system of the United States and the trustee savings bank system of the British Isles are similar. Except for management by trustees, the two systems have very little in common. In the United States the trustees of the mutual savings banks have wide discretionary powers of management. The laws of the various states broadly outline the types of investment which the banks may make and give the trustees great latitude in making the investments. Dividend rates are fixed on a basis of earnings and are neither guaranteed nor determined in advance. Annual losses or profits are divided ratably among depositors and are not absorbed by the government. There is no government guarantee to repay deposits—except as provided for under the federal insurance (voluntary for mutuals) and the state (Connecticut, Massachusetts and New Hampshire) guaranty plans, to which the banks must contribute.

The post office savings bank system of the British Isles was established in 1861. The immediate reasons for the creation of a government owned and operated savings bank system were the weaknesses of the trustee savings bank system. At the present time the two systems are identical in all major respects except that the postal savings system does not operate the Special Investment Department. In terms of the number of accounts (approximately 20 millions) and amounts on deposit (approximately £2 billions), the postal savings system is the most important savings bank system in the British Isles. Joint stock banks began to accept savings deposits about 1904 and have become serious competitors of the trustee and post office savings bank. During World War I, the city of Birmingham started a municipal savings bank which was reorganized in 1919 and is quite successful. The author also discusses the savings banks established for the very poor; for school children; and for persons in the merchant marine, army and navy.

The savings banks of the British Isles played contrasting roles in financing

the two World Wars. They were unimportant in World War I because the government borrowed funds at interest rates ranging from 4 to 6 per cent through the sale of small denomination bonds. Although the funds of the savings banks were also used to finance the war, the government refused to increase the 2.5 per cent interest rate paid the depositors. Between the wars interest rates declined and during World War II the government was able to borrow funds at approximately 3 per cent. Although the rate of interest paid savings bank depositors remained at 2.5 per cent, the difference was not great and the ability to withdraw on demand was an advantage. Under these conditions, the trustee and post office savings bank systems contributed approximately 50 per cent (£1.400 millions) of the "small savings" used in financing World War II.

Over one-half of the text deals with the period prior to 1866. Since there are at least two excellent histories on savings banks of the British Isles covering this period,² the author might have placed greater emphasis on the period since 1866. There is no analysis of the part, if any, played by public or private borrowers in the origin and development of savings banks. The volume contains materials which are not germane to the main theme. A case in point is Chapter XI which is devoted to the proposal, advanced between 1850 and 1870, that ownership of a savings account be made a suffrage qualification. While the discussion is interesting, a paragraph would have been sufficient, especially since the proposal did not become law. The author draws from many sources but does not give the dates or pages of the citations. The index is poor; the bibliography excellent. Taken as a whole, the volume is extremely worth while and is recommended reading, especially to students of finance and history.

DONALD SHAM

Washington, D. C.

Recent Banking Developments. By SAROJ KUMAR BASU. 2nd ed. (Calcutta: The Book Exchange. 1947. Pp. ix, 382. Rs. 12/8.)

The first edition of this book, by a University lecturer in economics at Calcutta, was published in 1946. The second section "has been thoroughly revised and brought up to date," and a new section of over fifty pages on Post-War Machinery For International Monetary Co-operation has been added. The book is a world-wide survey of the main trends in banking, and in particular central banking, since 1929, with special emphasis on the Indian situation. The author's comment (p. iv) on the "entire non-existence of relevant statistics" in India that "are readily available for other countries" would support the general impression among American economists that economic statistics for most of the Middle Eastern countries are very limited.

FRANK WHITSON FETTER

Northwestern University

² Arthur Scratchley, *A Practical Treatise on Savings Banks* (London, Longman, Green, Longman & Roberts, 1860), pp. liii, 324; and William Lewins, *A History of Banks for Savings* (London, Sampson Low, Son & Marston, 1866), pp. xvi, 445.

Business Finance; Investments and Security Markets; Insurance

Business Organization and Finance. By HOMER V. CHERRINGTON. (New York: Ronald Press. 1948. Pp. vii, 485. \$4.50.)

In the words of the author, this volume "is addressed to college students. It is intended to serve as a basic text in business organization and finance." It should therefore be appraised from the viewpoint of its adequacy and suitability for college classroom use.

In the opinion of this reviewer, Professor Cherrington has produced an excellent text. The book covers the subject adequately; it is exceptionally well organized; and it is simply and clearly written. Twelve types of business organization are discussed, ranging from individual proprietorships to mergers and consolidations. In addition, separate chapters are devoted to "Cooperatives" and "Government Corporations." The discussion of each type of business organization follows an unusually uniform pattern, treating in sequence the following topics: legal nature, ownership, leadership, finance, principal advantages and disadvantages. Of these topics, the treatment of "leadership" opportunities in the various types of business organization is somewhat unique. Throughout the book, public policy is stressed by brief digests of significant statutes and frequent references to important court decisions and administrative rulings. The condensation of this portion of the text material is uniformly good, the chapter on "Federal Regulation of Securities Markets" being especially well done. The treatment of controversial topics such as competitive bidding for corporate securities is fair and unbiased, both sides of the argument being presented with a minimum of indulgence in personal opinions.

The weaknesses of the book are those which would be expected to be found in any text written for use in a standard college course. So many texts have been written in the field of business organization and corporation finance that it is difficult, if not impossible, to present significant new material. The documentation throughout the book indicates clearly that Professor Cherrington has drawn heavily on his predecessors. Moreover, the very factors which render a volume excellent as a textbook—careful organization and simple diction—tend to make the book rather dull and monotonous to the non-student reader. The inclusion of up-to-date illustrative material tends to offset these inevitable disadvantages, and more such material would have enlivened the text, although it is recognized that space limitations were to be considered. A large portion of the illustrations actually presented appear in the fine print of footnotes, and too many of the cases date back to the first quarter of the century.

Nevertheless, Professor Cherrington is to be congratulated on achieving his objective. He started out to write a textbook for a standard college course and he has produced a worthy competitor in a crowded field.

JAMES C. DOLLEY

The University of Texas

Public Finance

Public Finance. By URSULA K. HICKS. (Cambridge: University Press. New York: Pitman Pub. Corp. 1947. Pp. 392. \$2.50.)

This new study of public finance should prove to be a welcome addition to the list of texts already available. Not only does it present the old things satisfactorily; but also, unlike most texts, it contains original and useful contributions. Many teachers of public finance will, I believe, find that it comes close to what they want for their students, and all of them will discover in it ideas and relationships that will stimulate their teaching and research. This volume helps to maintain the high standard set by the Cambridge Economic Handbooks, and when one recalls the others in the series—Robertson's "Money," Robinson's "Monopoly," Harrod's "International Trade," and the rest—this will be taken as high praise.

The book is analytical rather than descriptive, though in the first part—about 30 per cent of the total—the author sets out the main characteristics of the British revenue and expenditure machinery. The desirability of familiarizing the student with administrative processes is, I believe, obvious. There may, however, be some question about the advisability of including so much historical material. One wonders whether, in a volume that must be kept so short, space to consider the history of the Budget message, and of the consolidation of the Budget accounts (to name only two points covered historically) represents an optimal use of pages. Naturally, there is little about the fiscal institutions of other countries. But it is possible that the rather general remarks about American administrative machinery, introduced mainly to provide a contrast with the British, will be enough. Incidentally, is it not an error to account for the lighter over-all tax liability of the American citizen (compared to the British) as "partly due to the greater wealth of the United States, calling for lower rates of taxes to get the same per capita revenue" (p. 88)? Though greater wealth per capita in the United States would require a lower tax rate on each dollar of wealth or income to raise the same per capita revenue, it would not explain a lower rate of tax liability for each citizen (£22.2 as against £26 in the United Kingdom).

It is in the second and third parts that the author makes her real contribution. She divides her analysis into two sections; first, a consideration of the partial effects of taxes (and expenditures), and second, a consideration of the general or income effects. The analysis of the partial effects, presented in Part II, covers something of the same ground as, but goes well beyond, conventional tax incidence theory. The analysis of the general or income effects (Part III), familiar to us as fiscal policy, is now back where it belongs as a part of public finance.

The novelty and importance of this analysis of tax incidence (the theory of taxation) consists in the fact that it is concerned with a different kind of question than the one generally asked. Whereas the analyst has usually been interested in discovering who pays the tax, the landlord or the tenant, the cigarette smoker, the cigarette manufacturer, or the tobacco grower, Mrs.

Hicks asks a more purposeful set of questions; what factors influence the size of the price increase resulting from a higher tax and (more important), what are the consequences of the increased price (or reduced income) upon taxpayers who will alter their consumption patterns, and upon producers who will have to reallocate factors? Here she makes use of criteria and principles developed in the study of welfare economics—the production and utility optima, producers' and consumers' surplus, and so on. The loss of surplus for different kinds of taxes, and their distributional effects are compared. And though it seems unduly optimistic to hold that "the production and utility optima in the form just stated are capable of being brought into relation with statistical and econometric enquiries, and so are capable of becoming practical directives of policy"; at least, stating the criteria as to the choice of policy in this way ensures that the right kind of considerations will enter into policy determination.

The analysis of the use of taxation and expenditure policy as a method of ensuring a full use of resources (one of the necessary conditions for the satisfaction of the production criteria) is conventional. The effect of taxes on the propensity to consume and investment is considered. Likewise, the income-generating effect of public expenditures is taken into account. The monetary implications of a budget deficit are also considered. However, it is perhaps surprising that she devotes not much more than a third of the space given to tax incidence to these problems of maintaining income. Are these matters now so obvious that little needs to be said?

Certain lapses in exposition must be mentioned. It would be easier for the student to see the importance of the policy criteria set out if they were used explicitly in the analysis of the various taxes considered, and if their relation to effective incidence were developed in greater detail. There is an appearance (though it does not exist in reality) of a lack of integration between the material in Chapter 7 (which sets out the criteria to be used) and the rest of the book, which could have been avoided. Also, though the style is acceptable, it is not as clear as it might be. Nevertheless, the author has made an important contribution, and many will derive profit from studying it.

LORIE TARSHIS

Stanford University

National Debt Series. By Committee on Public Debt Policy. (New York: Committee on Public Debt Policy. 1946-48. Nos. 1-7.)

The seven reports of this series, published over a period of two years, are sponsored by a committee of economists, and bank, insurance and manufacturing officials. The chairman of the committee is W. Randolph Burgess and the director of research is Professor James J. O'Leary. The reports cover the history of American war debts (No. 1), and the debt in relation to the banks (No. 2), insurance companies (No. 6), interest rates (No. 3), the budget (No. 4), and savings (No. 5). The final report (No. 7) summarizes the earlier studies and their recommendations.

The series does not offer new material in this field. It is designed, rather, to present a point of view. The stated aim of the studies is to assist in deter-

mining that policy of debt management which "will be the best for the welfare of our people and the strength and financial stability of our Government." But it is assumed—in advance of inquiry—that such a policy "must seek these ends through utilizing and encouraging the individual ambitions and creative energies of our people" (No. 1, pp. iii-iv). This is, perhaps, not a serious limitation on inquiry, but it would have been more convincing if it had appeared as a conclusion rather than a premise.

Those seeking further light on the problems of debt management will not find it here. The final recommendations are to reduce government expenditures, to reduce the debt, to transfer debt holdings from banks to other investors, to permit flexible (*i.e.*, higher) interest rates, and to reduce taxes. These points are clear, but too general to serve as a guide since rising interest rates increase government costs, and reduced taxes decrease the possibility of debt reduction. Any practical program of debt management must give some clue as to priorities or indicate the desirable proportions in which these conflicting measures should be realized. The authors of individual reports sometimes indicate preferences, but there is no complete agreement among them, and the final report makes no clear-cut choice.

Probably no one would quarrel with the desirability of transferring debt holdings from the banks to other investors, but this is to be achieved, apparently, by offering the other investors higher interest rates. No estimate is given as to how high interest rates might have to rise to attain this end, nor as to what proportion of the public debt must be refunded at these higher rates in the next few years. Yet these are important factors in determining government expenditures. Interest on the debt, even at 2 per cent, is a substantial item in current budgets. Nor is there any clear guide to the appropriate rate of debt reduction. In the fourth report, it is suggested that \$30 to \$40 billions might be paid off in the next decade, and the author gives moderate debt reduction priority over tax reduction. However, the final report makes no such choice. Apparently government expenditures, other than interest, are to be reduced enough to provide for tax reduction, debt reduction, and higher interest rates as well.

The series is, in the judgment of the reviewer, open to criticism on another count: the failure to state clearly the assumptions underlying the recommendations. In none of the reports can there be found any real discussion of the relation of the government budget to the national income. In view of present controversies in this field, any study of the national debt that does not state specifically the principles on which its conclusions are based will have limited value. Only the fifth report, on the national debt and savings, gives much consideration to this problem. This report stresses the importance of encouraging savings, apparently on the assumption (never specifically stated) that investment is limited by the amount of savings individuals and corporations decide to make. Moreover, it appears to credit improved standards of living in the past solely to saving. No mention is made either of capital-saving inventions, or of attempts to save that have failed to be translated into new investment. Our fiscal and monetary policy is indicted on the charge of having checked savings. But there is no convincing proof. (See,

especially, No. 5.) It is implied that a reduction in government spending would check inflation without reducing business activity and that a reduction in taxes would increase business activity. All this is possible, but the qualifications that might make this position tenable are lacking.

There is still much to be learned with respect to national debt management. Guidance is badly needed. It is all the more to be regretted, therefore, that the money and talent invested in this series of reports were not used to explore practices in other countries, our own past experience, some of the recent theoretical developments, or in other ways to increase knowledge in this field.

MABEL NEWCOMER

Vassar College

International Economics

The West at Bay. By BARBARA WARD. (New York: W. W. Norton & Co. 1948. Pp. viii, 288. \$3.50.)

The West at Bay is a tract for the times—an eloquent, persuasive, and often inspiring brief in support of closer association among the nations of Western Europe. It is Miss Ward's essential thesis that the nineteenth century political and economic order has vanished, that Western Europe's international economic crisis is not merely a passing consequence of World War II but rather the war-accelerated resultant of a far older and more deep-seated trend, and that lasting economic recovery and preservation of Western Europe as a continuing fountainhead of the cultural values of western civilization can be obtained only through far-reaching political and economic integration.

After introducing her argument in summary form, Miss Ward reviews in two sections of the book the political, social, and economic elements in the gradual decline of Western Europe's position in world affairs and the corresponding rise of the United States. She then sketches the immediate background of the inception of the European Recovery Program, stressing the relation to closer western association and the failure of the projections made in the fall of 1947, either by the Committee for European Economic Cooperation or by the U. S. government, to show a balance in Europe's dollar accounts by the close of the four-year period.

It may be noted parenthetically that Miss Ward pays far more serious attention to the official American long-range projections than would the authors of those estimates. She also appears to confuse the deficit in 1951-52, when the program would, according to the original plan, be in its final year, with the possible situation thereafter. Her essential point, however, namely the formidable difficulty in foreseeing a dollar balance by 1952 without either a drastic shift in the terms of trade in Europe's favor, a considerable and perhaps politically intolerable reduction in European consumption, or a far larger flow of private investment funds than appears likely, seems to be borne out by the preliminary survey of the EKP countries' four-year programs undertaken at the end of 1948 by the Organization for European Economic Cooperation in Paris.

In the concluding section of the book, entitled "Western Association,"

which occupies about one-third of the whole, Miss Ward sets forth her plea for closer association and a series of specific proposals for immediate steps on the economic side.

The book reflects those literary and intellectual qualities which were to be expected from its authorship by the young and brilliant foreign affairs editor of the London *Economist*. If not pretending to profound scholarship, the work represents informed journalism at its very best. It is well written. It evinces an excellent historical sense. Miss Ward deals competently with economic issues, although the book is not directed primarily at economists and the professional reader will find some of the exposition (notably the summary of Keynesian trade cycle analysis) oversimplified beyond recognition. Above all, Miss Ward displays a profound understanding of and abiding faith in the fundamental cultural, human, and moral values developed by the liberal and humane tradition of Western European civilization and a recognition that without genuine recovery in Western Europe its vitality as a continuing source of cultural development may well be stifled.

The most striking feature of *The West at Bay* is its attempt to come to grips on a step-by-step basis with the process of achieving closer Western European association, especially on the economic side. The discussion is introduced by a brief chapter on regional defense, which is essentially an advocacy of the type of arrangements now being created under the Brussels agreements. On the political side, Miss Ward decries constitution-writing at the present stage as mere blueprinting of "Never-Never Land," although she fully recognizes the indissoluble linkage of economic with political factors. She endorses as a first political step a regularized conference of Western European prime ministers, using the Brussels defense organization and the Organization for European Economic Cooperation as a permanent secretariat, leaving for the future more ambitious experiments in federation. In her own words (p. 196), she is "primarily concerned with the concrete questions of strategic and economic cooperation, not because they are substitutes for political decision, but because they are the difficult tests by which the genuineness of the nations' political will is to be judged."

Miss Ward's program for Western European economic association comprises four elements: (a) OEEC allocation of basic materials and equipment on criteria of optimum region-wide use, to be followed by federation of the coal, petroleum, steel, transportation, and power industries into international public corporations, paralleled by an international agricultural planning agency; (b) development of an international capital planning board to guide (and perhaps control) the rate and direction of capital expenditures both in the internationalized industries and in major private industries; (c) gradual movement toward reduction of barriers to intra-European trade and migration, with special emphasis on what amounts to a regional currency union; and (d) a concerted region-wide attack on the dollar shortage, including a planned sharing of austerity in dollar imports, joint development of non-dollar sources for food and raw materials, and a concerted sales effort for exports to the dollar area.

It should be said at once that Miss Ward's program raises at least as many questions as it answers. It is simply taken for granted, for example, that

rationalization of basic industries under coordinated international control would achieve real economies. There is no reference to possible diseconomies of large-scale administration by an international bureaucracy. Perhaps there are sound *a priori* grounds for believing that international horizontal integration may afford greater economies than horizontal integration within national boundaries, since competitive nationalist development of basic industries in small countries clearly entails serious economic disadvantages. On the other hand, as Miss Ward herself recognizes, the very pressures of economic nationalism are the most formidable obstacles to achievement of such a program. Nor does the supporting evidence of the postwar European international allocating agencies appear genuinely relevant. The European coal, transport, and associated organizations now combined into the Economic Commission for Europe were engaged primarily in avoiding excessive distortions in the distribution patterns of acutely scarce materials in the immediate postwar years, and have barely scratched the surface of region-wide rationalization. Again, Miss Ward omits anything more than casual reference to problems of inflation, exchange rates, and discrimination against dollar imports—matters essential to a comprehensive discussion of the broad issues raised by the book as a whole.

Indeed, the reader is left with a puzzled sense that, while Miss Ward has put forward Western Europe's apparent inability otherwise to achieve international viability at a tolerable living standard as the principal argument for closer association, she has provided little evidence that her specific program would make a major contribution to international economic balance. It is no doubt probable that it would help. In any event, the strategic and political advantages of strengthening Western Europe through closer association are so clear-cut that Europeans would be well persuaded to develop closer economic cooperation, if only as an act of faith. Miss Ward's greatest contribution, however, lies in asking many of the right questions and in making an all too rare attack on the central operational problems of precisely where and how to start effecting a lasting solution to the strategic, political, and economic issues which beset Western Europe. She has placed the economic problem in its proper perspective in relation to political and moral factors. It is with this perspective and in response to these questions that the further spade work of finding constructive answers must be pursued, both by Europeans and by Americans in their role as participants, providers of aid, and in the long-run beneficiaries of the European effort to preserve the western heritage.

LINCOLN GORDON

Harvard University

A Second Review of *The West at Bay*.

Said Mr. Wrigley to Mr. Ford

"Chew more of my gum or, on my Ward,

I never can buy another Lincoln;

My balance with you is persistently sinkin'".

Said Mr. Ford to Mr. Wrigley
 "You're cuckoo, my boy, not to say higgly-piggly,
 Our reciprocal sales may be far from mates,
 But the rest of the world still masticates!"

Anon.

These quatrains are cited more in desperation than in mirth. I am in complete sympathy with Miss Ward's general ideals and have no doubt that she merits many of the encomiums showered on her by her publishers and somewhat naïve reviewers. But if it is true, as the jacket of this book quotes John Fischer as saying, that Miss Ward is "probably the most brilliant writer on economics . . . in all of Europe," then the West is not only at bay but practically certain of irrevocable *Niedergang*.

The book professes to demonstrate the urgent need of a centrally planned (but, of course, not "authoritarian") economy for Western Europe as a means not only of combatting the centrally planned (and, to its protagonists, profoundly "democratic") economy and politics of Europe's eastern sector, but also of competing with the overweening American Colossus. Miss Ward is deeply concerned about "balance," and, among other errors, thoroughly confuses the balance of power with the balance of payments. Despite her disesteem of Russia, she swallows whole, and regurgitates, the Soviet doctrine that the American policy of liberalization of international trade would be fatal to countries with "weaker" industries than those of the United States, and, while professing the contrary, she is obsessed with the philosophy of bilateralism.

The jacket states that Miss Ward took first class honors in economics at Oxford University, and presumably, therefore, has heard of the doctrine of comparative advantage. There is, however, not the slightest evidence that she knows what it means. She is therefore unaware that *per capita* productivity (or national poverty) has nothing whatever to do with *balance* in international trade (unless, indeed, it should be alleged that unalleviated poverty would *ensure* it), or with national competitive capacity. She even convicts herself out of her own mouth since she cites, among the long-run historical causes of Britain's present economic difficulties, the British loss of markets to Japan (where *per capita* productivity was never anything like as high as that in Miss Ward's homeland) as well as to the United States (where it has long been higher.) If Britain lost in competition with the United States because American industry was strong (in Miss Ward's sense), why did Britain also lose in competition with the Japanese where industry, by the same criterion, was weak? Miss Ward cannot be right on both counts, though it is possible, and is, in fact, the case, that in both she is, in her inferences, profoundly wrong.

Miss Ward, further, is much impressed with mere size as a factor in competitive power. This is sometimes presented as the size of the firm, and sometimes as the size of the market. It is, however, notorious that large firms, such as General Motors, are mortally afraid of the inefficiencies of great size; that, for this reason, they decentralize their operations, knowing

that only the most strenuous efforts to combat hardening of the arteries keeps the concern abreast of certain of its much smaller competitors. It may, moreover, not be out of place to call to Miss Ward's attention the principle of opportunity cost which would tend to calm her fears of size even if they were otherwise justified. For, if the United States has a comparative advantage, and specializes, in the industries where the greatest size is all-important it must, *pro tanto*, abandon those industries where the greatest size is less significant. One cannot *specialize* in the output of anything without reducing the output of other things below the level that would be necessary to meet even the reduced (total) demand under conditions of self-sufficiency. Other countries will then come in to supply this gap in demand. There are, moreover, very few industries in which the British home market could not be large enough to give any feasible economies of size.

Miss Ward labors *ad nauseam* the point of the long-run shift of political power from western Europe to other parts of the world, and seems to think that this is highly important economically. Yet similar shifts of political power have been in process since the beginning of time without corresponding economic consequences. Sweden, Denmark, Holland, and Switzerland have, to take a modern instance, been losing in relative political might much longer than western Europe as a whole, but have, nevertheless, rather steadily improved their economic status. The United States itself, moreover, did quite well economically when its international political power was small (relatively better, in fact, than after it had become a major political power.)

Miss Ward is further convinced that western Europe cannot function satisfactorily except as an economic unit. If this were true, the obvious recourse would be to intra-west-European free trade. But Miss Ward dismisses all this as of less than nugatory value. Since such free trade would surely result in a great deal more complete economic integration than would any other conceivable policy, its practically unconsidered rejection means that Miss Ward will have west-European economic integration only on her own terms, *i.e.*, "planned" under the British aegis, or, at least, with a very lively regard for specific British interests. She wants *national* planning *within* a European union. This is surely a prescription for conflict or for chaos.

The "dollar crisis," discussed in the Introduction, is now (and, perhaps, always was) solely a matter of discrepancy between the controlled external (exchange) value of the pound sterling, and other European currencies, and their (lower) internal values. For reasons which it is impossible here to detail this is leading not only to the "dollar shortage" but to a monstrous distortion of trade. Miss Ward presumes to lecture Americans on their economic illiteracy and suggests (truly) that it will be very difficult to make the American cotton or tobacco grower understand why the dollars he has voted in Marshall plan aid should be spent on non-American tobacco or cotton at higher prices than those at which he himself is eager to supply at least equally good products. It is, of course, all but certain that I share what Miss Ward conceives to be the general economic illiteracy of my compatriots, but I submit that it would be difficult to make *any* intelligent person under-

stand why such a thing should be done, and I would say that, if Miss Ward thinks she knows the reason, she had better look to her own economic education than to that of the American people at large.

The truth is that there may be a case for paying apparently high prices in *sham-money*, valued against real money at factitious rates of exchange, than for paying the same, or somewhat lower, prices for the same goods in any real money (dollars or other "hard" currencies). The difference between the two ostensible monies is that the sham-money is useful only in the purchase of goods with which the supplier of the money wishes to dispense, while the real money (as *must* be the case if it is to be real) may, at the will of the possessor, be used to buy anything at all. The sham-money is, of course, not worth in real money what the authorities declare it to be worth, and even the illiterate American cotton or tobacco grower might understand that it might be worth while to offer to a seller of goods a somewhat larger amount of this stage money than to pay him an equivalent face value of dollars, or any other real, even if far from ideal, currency. But his (doubtless naïve) reaction might be to ask why governments should insist on putting a sham exchange value on their monetary issues and thus make internationally quoted prices a hopelessly inept, when they could be an all but perfect, allocator of resources. (Nor is the answer to this query quite what Miss Ward might think it to be.)

Miss Ward's "economics," in short, is in the tradition of Hjalmar Schacht, Thomas Balogh, and the bullionists. This may, perhaps, be the (resurgent) wave of the future, but it has not yet established its position in a still partly rational world, and some of us, in the United States at least, are still so conservatively unregenerate as not to have lost all faith in hardheaded rationality. We would prescribe for Miss Ward another journey to Pieria and a good long draft of its waters.

This review is consciously harsh. There are many nice things that might be said about Miss Ward though it would, in this respect, be extraordinarily difficult to compete with the publisher's blurbs. It must be said, however, that she writes most engagingly, that her heart is in the right place, and that, when she does not get beyond her depth, she swims very prettily indeed. She is all too plausible. I am led to blunt speaking, however, by the conviction that these qualities are doing all but irreparable damage to the cause of freedom, for which Miss Ward, I am sure, feels a warm affection. She builds a structure which, completed, she would abhor; and, though written in all innocence, this is, to a libertarian, a subtly dangerous and a highly subversive book.

FRANK D. GRAHAM

Princeton University

The Economic Reconstruction of Europe. By GEOFFREY CROWTHER. Foreword by Homer D. Crotty. (Claremont, Calif.: Claremont College. 1948. Pp. xii, 79. \$2.75.)

In this volume, the associated colleges at Claremont, California, have made

available the text of three lectures delivered under their auspices at the end of February, 1948, by Geoffrey Crowther, editor of the London *Economist*, under the respective titles, "The Vitality of Europe," "Freedom and Order in Europe," and "America and Europe." The lectures are pitched at the level of the intelligent but not overly informed layman, and make no pretense at professional economic analysis of the issues. They are in part outdated by subsequent events. But they repay reading by virtue of that beautifully lucid style which graces the pages of the *Economist* under Mr. Crowther's editorial supervision, and the many provocative reflections which often make one eager for further development of the author's views.

The essence of the first two lectures is summarized by the author himself in seven points (pp. 61-64), which may be briefly paraphrased: (1) In comparison with the time required for recovery after other wars, the continued existence of major economic dislocations in Europe is neither surprising nor particularly significant; (2) The war-induced changes in Europe's economic position are mostly temporary, the permanent ones (notably liquidation of overseas investments) being comparatively unimportant; (3) The chief sources of Europe's present economic troubles may be eliminated fairly promptly, especially through a major reversal of the terms of trade in favor of Europe as an industrial exporter; (4) The East-West division of Europe, while of enormous political importance, is not of great economic significance; (5) Germany is a major exception to point 4 and is Europe's most difficult economic problem, which can be satisfactorily resolved only through economic reconstruction and political integration within a larger European association; (6) The socialist trend in European economic policy is not as extensive or as doctrinaire as is commonly thought in the United States, is largely a response to limitations of the European environment, and will not greatly affect the prospects for successful European reconstruction; and (7) Western European federation is neither a prerequisite to economic recovery nor particularly desirable from a merely economic viewpoint, but is highly desirable politically and should be promoted by the United States under the opportunity afforded by the European Recovery Program. In his third lecture, Mr. Crowther warns against unduly restrictive conditions on American aid under the European Recovery Program and finally, looking to the longer-term picture, calls for continuing American leadership in a community of nations spanning the Atlantic Ocean.

From the lectures as a whole, two points of major interest stand out. The first is Mr. Crowther's striking optimism as to the comparative ease (except for Germany) of obtaining a balance in Europe's international accounts and his expectation that the British problem will be solved largely through a restoration of more favorable terms of trade with primary-producing countries. Mr. Crowther appears to assume that 1938 is an adequate standard for judging the problem of European recovery. This view contrasts sharply with Barbara Ward's conclusion (*The West at Bay*, 1948) that the postwar dislocations are a magnification and acceleration of a serious relative decline in the Western European economy which began well before the first World War. In this reviewer's judgment, Miss Ward rests on sounder ground. In view of the increasing economic self-consciousness of the primary-producing coun-

tries, it is difficult to believe that terms of trade such as those of the mid-'thirties will recur and be maintained over considerable periods of time. The British have accomplished wonders in reducing their dollar deficit from \$2.7 billion in 1947 to a prospective \$1.3 billion in 1948-49, but these gains have been made in a seller's market for industrial goods and in the total absence of German competition. It is difficult to see how any prospective improvement in the terms of trade can remove more than one-third to one-half of the remaining deficit. In any event, the March, 1948, Report of the Economic Commission for Europe suggests that for Western Europe as a whole, in contrast with Britain, the terms of trade have not substantially deteriorated in relation to prewar. International economic viability at tolerable living standards for the entire area would appear to necessitate substantial structural modifications in the western European economy to achieve reduced dependence on imports and increased productivity. At least some of these changes would be greatly fostered by closer economic integration.

On the political side, Mr. Crowther's lectures remain particularly timely. Although less insistently than Miss Ward, and with far less emphasis on economic measures, he also calls for closer western European union, particularly of the five Brussels powers and possibly Denmark and Norway. He would begin with the pooling of military forces, both for its own sake and on the ground that without pooled defense, planned economic specialization is unacceptable. He suggests, for example, that lack of military integration would prevent the British from accepting a French monopoly of watch and clock making (precision instruments in wartime) and would prevent the French from accepting a British monopoly of tractors (tanks in wartime). One may doubt the force of this particular argument, since even within a militarily and politically united Europe the geographically less vulnerable areas would have a strong claim for the location of all strategic industries. Would not Portugal, Eire, Iceland, and Norway be the real beneficiaries of such a policy?

Granting the priority of military union, one is also tantalized by the need for more specific delineation of the remaining possible successive stages toward political and economic integration. The technique of military pooling is a relatively simple matter. The great gap in today's thinking lies between this vitally important but conceptually simple stage and the starry constitution writing of the World Federalists, Union Nowers, and Atlantic Community makers. Mr. Crowther in the instant volume just begins to shed light on this matter. It is devoutly to be hoped that it may soon be further illuminated by his almost unique combination of political and economic wisdom on western European affairs.

LINCOLN GORDON

Harvard University

The European Recovery Program. By SEYMOUR E. HARRIS. (Cambridge: Harvard University Press. 1948. Pp. xvii, 309. \$4.50.)

"The object of this book," Professor Harris writes, "is not only to explain

the ERP and the major issues involved; but also to offer some points for consideration when the legislation is again reviewed early in 1949 and later years."

The organization of the book is designed to meet the requirements of the hasty reader. The first twenty pages contain brief statements about the major issues raised by the European Recovery Program and present summary conclusions. Part One, about sixty pages, is given over to an elaboration of the major issues and the rest of the book is largely concerned with the basic data and related estimates and explanatory materials which were submitted to the Congress during the first quarter of 1948. The points which Professor Harris offers "for consideration when the legislation is again reviewed" are interspersed throughout the text and are not always clearly definable.

Professor Harris isolates about eight major issues involved in the formulation and administration of the Program. He believes that the outcome of these issues will largely determine the extent to which the European participating countries by the end of 1952 will be able to support themselves at high levels of economic activity and at tolerable standards of living. On almost every one of these problems the author comes to definite conclusions which are presented in the earlier sections of the book, designed for reading by busy officials and executives. Discussion and qualification appear in the sections which the "general reader and student unhurried" might read (p. x).

Three of the problems which Professor Harris believes will influence the success of the Program relate directly to domestic economic policies. In his opinion, the United States has thus far failed to adopt the necessary controls on inflation. Furthermore, Professor Harris fears that the Program might degenerate into a subsidy system for American producers. He also questions the desirability, in view of the alleged costs involved, of using ERP to support private American enterprise. The author asserts that utilization of private channels of trade for procurement of goods financed by the Economic Cooperation Administration "may cost the taxpayer billions of dollars" (p. 15). Although he recommends centralized government procurement "of all supplies required under the ERP," Professor Harris does not explain how such an agency could effect economies in the purchase of thousands of commodities and he fails to consider the effects of such a policy on the future of private enterprise in international markets.

The author observes that the extent of communist opposition will affect both the outcome of the Program and the amount of supplementary military aid which might be provided to certain countries. With respect to the non-communist countries which are not participating directly in the ERP, Professor Harris believes that the Executive Branch arbitrarily reduced the estimated cost of the Program to the United States Treasury by placing excessive burdens on the other countries in the Western Hemisphere. He states that these countries "are being asked to provide goods under the ERP in exchange for credits or dollars; and the use of these dollars is to be subject to control by the United States" (p. 16). This judgment does not deter Professor Harris from urging the adoption of an effective system of export

commodity controls which would divert United States exports to Europe "at the expense of other areas" (pp. 198-201).

The author notes that United States assistance is extended on condition that "approved" policies are carried out by the participating countries. Professor Harris believes that United States authorities are pursuing erroneous policies in certain important areas. For example, United States executive branch officials are making "strong statements" in favor of foreign exchange rate devaluations. At the same time, they are dodging the issues about controls of resources and even of wages and prices in Europe since a stand on those matters might provoke embarrassing controversy about U. S. domestic policies. On the question of exchange rate devaluation, Professor Harris seems to me to be attacking a windmill of his own making. A careful examination of the Congressional hearings did not yield statements which would support his charge. The author refers to, but does not cite in his references, certain statements made by the National Advisory Council on International Monetary and Financial Problems. I believe I have located the proper document and the strongest statement found therein is mild indeed, even when quoted out of context. "The Council . . . believes that some adjustments in exchange rates (of member countries of the International Monetary Fund) may have to be made in the near future." The next sentence in the text adds significant qualifications. "Any action in Europe must, however, be related to the provision of American assistance under the European recovery program and in all instances must also be related to the steps taken toward the internal stabilization of the economic and financial situations of the member countries."¹

The author believes that the Executive Branch pressed too hard for deflation of investment programs of the European countries and therefore the cost to the American taxpayer for the "next ten to twenty years" might be substantially greater than present estimates. Furthermore, other considerations lead the author to doubt that the European countries will become independent of extraordinary outside assistance by the end of 1952. "Even if the desired rise of output is achieved, however, there will remain serious obstacles to wiping out the major part of the deficit in the balance of payments, and in particular with the United States. Here is the most perplexing problem of all, and it may well not be substantially solved in four or five years, even if the ERP is favored by rising productivity and output and correct fiscal and monetary policies" (p. 25). As an adherent to the thesis that persistent dollar shortages will continue in world trade, Professor Harris is almost forced to take a dim view of the prospects for recovery in Europe. Since the thesis of dollar shortages tends to discourage strong efforts on the part of countries to increase exports, particularly exports to the hard currency areas, it is difficult to accept this view and also the author's belief that an enlarged investment program in the European countries would contribute materially to a solution of their dollar-deficit problem.

¹ *First Special Report of the National Advisory Council on the Operations and Policies of the International Monetary Fund and the International Bank for Reconstruction and Development*. 80th Congress, 2nd Sess., H. D. No. 656 (May 18, 1948), p. 12.

The controversial nature of the author's conclusions on many issues raised by the European Recovery Program should not obscure the fact that Professor Harris has highlighted some of the basic problems involved in this vast undertaking and that he has presented to students of the subject the relevant factual materials from which independent conclusions can be derived.

W. H. BRAY

Washington, D.C.

Business Administration

Advertising and Economic Theory. By E. A. LEVER. (London, New York, and Toronto: Oxford Univ. Press. 1947. Pp. xi, 132. \$2.75.)

This tiny book (it would cover only 65 pages like this one) was written, its preface explains, "primarily to invite young economists to think out the proper place of advertising in economics and to emphasize the necessity for a theory of consumption," and secondarily "to suggest a method of bridging [the] gap as far as advertising is concerned" between "practical men of affairs, [who] appear generally to think that economic theory is intellectually inaccessible," and "theoretical economists, [who] are often severe in their strictures on what appears to them to be the naïve and amateurish language of the practical men."

The main argument of the book is summarized in the final chapter as follows: "The marketing of consumption goods is subject largely to conditions which are variously called imperfect, monopolistic or non-price competition. . . . Advertising provides a tool which gives prospects of profitable consumer demand. There is probably little or no restriction of outputs to maximize profits, as is asserted in the theory of pure monopoly; indeed, within wide limits, producers generally wish to increase their outputs up to their respective optima or, in ignorance, often beyond these optima. Costs are incurred in this attempted growth and frequently a substantial part of advertising costs can be looked upon as growth costs." The following points are listed as tentative conclusions "which must be taken care of in a realistic economic theory": (1) "A manufacturer of consumption goods cannot obtain the benefits of mass production without using advertising. Low—or lower—prices are less frequently a sufficient inducement to buyers than is assumed in the elementary economic theory of supply and demand." (2) Advertising produces utility by creating wants which are then satisfied. (3) Advertising can, under some circumstances, result in gains of efficiency sufficient to offset its own costs; and while it may sometimes cause waste, such waste is a consequence not of advertising but of freedom of consumer choice. (4) "The distinction . . . between 'informative' and 'combative' advertising is not realistic. In any case, . . . the greater proportion was informative." (5) "Advertising tended to be correlated with production rather than *vice versa*." (6) "Advertising can be a form of Investment, in Lord Keynes' use of the term."

Needless to say, not all of these conclusions can be fully substantiated in

a book of this size. A good many propositions, especially those relating to economic theory, are supported only by quotation marks and references to recognized authorities, most frequently Borden, Chamberlin, and Robinson. Indeed, Lever is, on the whole, surprisingly uncritical of both economic theory and advertising.

If the book has a particular merit, it is that it touches a good many of the economic issues that have been raised concerning advertising, mentions the principal literature, and presents some institutional and statistical data on advertising. Thus, it may prove, as the author intended, of some value to a "young economist" someday mapping a more thorough and penetrating investigation of the role of advertising in the economy. Such an investigation should, for one thing, examine existing theories of imperfect and monopolistic competition with regard to the consistency of their conclusions with actual advertising practices—with regard, that is, to the ability of these theories to organize, predict, or rationalize observed advertising practices.

W. ALLEN WALLIS

University of Chicago

Industrial Organization and Markets; Public Regulation of Business

Problems in Price Control: Pricing Techniques. By ROBERT J. BENES, REED DICKERSON, JOHN A. HART, DAVID KASS, A. MOORE LIFTER, and JOHN W. PASCHKE. (Washington: Supt. Docs. 1947. Pp. xi, 286. 55 cents.)

This volume, the eighth in the series of general publications dealing with the work of the Office of Price Administration, consists of six essays, each called a chapter. The whole is designed to give an exposition of certain price-fixing techniques used by the agency during the war period and immediately thereafter. The approach is roughly historical, beginning with the first of the general techniques used after the agency had the direct statutory authority of the Emergency Price Control Act of 1941. This was the General Maximum Price Regulation, and is described by John A. Hart in the first chapter. The following chapter, written by Reed Dickerson, deals with the freeze technique. The third chapter, by Robert J. Benes, is concerned with the techniques and difficulties of pricing by the formula method. The fourth chapter, the work of A. Moore Lifter, takes up the very complex problems presented by the necessity of pricing by specific authorization. The only definite case study involving a closely related group of commodities is presented in Chapter Five, in which David Kass goes into considerable detail as to the methods used and difficulties encountered in the pricing of solid fuels. The concluding chapter, by John W. Paschke, deals with the problem of pricing foods, and the techniques of distributor margin control.

It would, of course, be easy to criticise the organization of this volume, just as it has been easy to criticise the organization of others in the series, by pointing out that the editing leaves something to be desired. It is true that there is duplication of material, especially between the first two essays, for the second uses the subject of the first as a continuing example in its exposi-

tion of the freeze technique, thus frequently repeating what has already been said. This criticism is not so true of the material of the other chapters: in fact, for them, it can be said that instead of overlapping there is sometimes too little transition material. The development by which one method of control either grew from, or was compelled by another, is not sufficiently elucidated.

But although such criticism is easy—and correct—it would be hardly fair, in view of the avowed method and purpose of the series. From the first, with apparent full understanding of the inherent disadvantages of the method, it was planned to present the studies as a series of essays. We must, therefore, accept the plan of organization and go on to a consideration of this particular set of essays. It does not present a careful, closely reasoned study of the techniques of price control in all their aspects: it is rather an attempt to describe certain phases of the problem, and certain solutions which were used. The aforementioned careful, analytic study of the techniques of price control as practiced by the Office of Price Administration will not, I venture to say, be a book of 286 pages, as this one is; it will most likely consist of five volumes of a thousand pages each.

No one of these essays, on the other hand, is hammock reading for the dilettante. The approach is technical, and frequently a bit involved as to vocabulary. There are expositions which only the initiate can handle fluently, and sometimes he will find himself nonplussed. With all of this, too, I have no quarrel. The technique of price control was never designed for the amateur; it did not follow glittering generalities; it was difficult to originate, and far from simple to use. The Empire State Building did not rise upon generalized blue prints either. The difference is that the building of a material structure is known to be a highly technical job, and the technicians do it with little lay interference. Price control was conceived and had to be carried out in the scorching glare of Kleig lighted publicity, with much kibitzing from everyone, and no few anathemas. But the job still remained technical, and it had to be run by technicians. The amateurs frequently proposed price regulations, but they weren't price control regulations. (Read about the Yellow Draft Plan on page 238, *et seq.* of this volume.)

The essays do lack comprehensive and critical appraisal of the results of the methods dealt with, even though each one devotes a few paragraphs to that aim. This lack is the great defect of the volume. There is no definite statement about how each method failed to reach its goal—and each did fail to a greater or less degree, of that there is no doubt. No red signal flags have been set up to mark the pitfalls, so that future travellers may avoid them, and there is no over-all suggestion as to how to do a better job when next it has to be done. Perhaps we are too near in time to the facts to be able to do a good job of warning, but from the present look of things, someone would deserve well of his country were he at least to try it.

Only indirectly and with reserve is comment made about the political difficulties and congressional heckling which the men at high policy levels had constantly to undergo, all of which were a major distracting influence to the work of the agency. If Mr. Fairless had to spend as much time explaining to his Board

as, for instance, Mr. Bowles had to spend explaining to various congressional committees, there would be real reason for a steel shortage. Even now, the writers of the essays, mindful, doubtless, of past congressional browbeating are all too careful to keep from placing blame for some of the agency's failures where it belongs, namely on politics and on the Congress, the members of which always seemed to want price control, in general, but never specifically controlled prices when their pets were involved. It is my bitter feeling that a cold, implacable analysis of this official hamstringing of an essential war effort cries aloud for expression. This volume doesn't do it, although here and there a coy sentence is pregnant with meaning for those whose memory is good.

To give anything approaching a résumé of the material contained in the essays is, of course, impossible in a review of this length. A few selected facts and implications may be interesting. Before price control had run its course, more than 500 Maximum Price Regulations had been issued. Almost all of them had been amended at least once, and several of them had had hundreds of amendments. In addition, there were thousands of orders issued under the authority of some of the regulations, and tens of thousands of special adjustments. The necessary paper work was a burden and keeping abreast of the regulations a most difficult task for the field men, as well as for the business world.

Implicit in the essays is the fact that no one in America really knew, or knows, very much specifically about our economy and especially about the ways in which our "market" functions, and this ignorance is as rampant among members of an industry or trade as it is among the economists. (This book should be required reading for those teachers of economics who still lecture with debonair unconcern about the "American market," as if it were a single well-oiled, self-running machine. What a surprise they'd get!).

Since no one had the facts about the "historical" market, the agency tried to get them for itself. Frequently it called on the Bureau of Labor Statistics, which, with its trained staff, did yeoman service in making needed surveys. From such data the agency tried to arrive at some sort of rational bases for some of its controls, notably the food margin controls. Of course, statistical analyses were used, but it is noteworthy that after the curves had been carefully drawn, and divided into four types,¹ the final determination of the specific margin to be used in any particular case was still more by subjective judgment than by objective rule. In this particular field, Safeway Stores objected, citing the arbitrary method by which the agency arrived at its conclusions, but the Emergency Court of Appeals upheld the determinations, declaring in a most important decision that it was not the means of determination of price which were of primary importance, but rather, whether the price determined was "generally fair and equitable."²

Then, there were the difficulties of definition and of classification. For instance, should all stores be treated alike in the matter of food pricing,

¹ See the section titled "Analysis of Margin Data," page 229 and following.

² See page 286 for this important part of the decision.

whether or not they were large or small, single or chain?³ What is a margin? Is it figured on the cost of the article (that is the traditional method of our schools), or on the selling price (most "modern" businesses do it that way)? The agency finally came to call profit percentage based on cost a "mark-up," and one based on selling price a "margin." It was very easy to make a mistake, and a mistake could make a large difference in price. And what was an "in-line" price? Although the concept was rather widely used, no clear-cut definition was ever enunciated.

The General Maximum Price Regulation froze prices at the highest level charged in March of 1942. That's a simple statement, it would seem. But, to consider just one difficulty, what if a seller wanted to sell something in August which he hadn't sold at all in March of 1942? There had to be an answer to that one, and there was—not only one, but several. One is set forth at some length in the last paragraph on page 83. Not only this paragraph, but the one following it on page 84, are both most interesting in setting forth the difficulties inherent in saying precisely what is intended, in language understandable to the man who has to abide by the regulation. I am willing to make a modest wager that the figure derived (correctly) by the author for "average per cent mark-up," in his exposition of the simple example in the first paragraph at the top of page 84, would not be the figure derived by most of the people to whom the regulation applied. I could be wrong.

Even while I was a member of the staff of the Office of Price Administration, I used to be amazed, in my cloistral, midnight meditations, that the agency succeeded at all. A perusal of this set of essays does but increase that amazement. But the record speaks for itself: wartime price control was an over-all success.

STANLEY C. ROSS

Smith College

Problems in Price Control: Pricing Standards. Edited by JAMES B. ECKERT. (Washington: Supt. Docs. 1947. Pp. xvii, 522. \$1.00.)

Problems in Price Control: Changing Production Patterns. Edited by BENJAMIN CAPLAN. (Washington: Supt. Docs. 1947. Pp. xiii, 441. 75c.)

These two studies in the historical series covering the activities of OPA describe the development of pricing standards by OPA and its predecessor, OPACS, between 1941 and 1946 and the problems met in seeking to maintain production of necessary items under conditions of wartime price control. Each of these volumes consists of a series of chapters written by different individuals on various aspects of the problem. These chapters are of uneven performance and extremely repetitious. Although they present a picture of the issues involved, there is no critical assessment of policies pursued by OPA during World War II. They should be useful, however, to students of public control and to historians of the war effort. They should likewise be of considerable value to those who are concerned with industrial mobilization

³ They were, in fact, divided into four classes. See page 243.

planning for another war. Finally, they should be of interest to economic theorists because of the incidental sidelights which they throw upon the structure and functioning of the American economy in times of both war and peace.

Pricing Standards is concerned with the standards used in establishing and adjusting price ceilings. These standards derived from several sources: congressional legislation, executive orders of the President, the directives of the Economic Stabilization Director and the Director of War Mobilization and Reconversion, and finally the Price Administrator and operating groups within OPA itself. The volume includes a chapter on the general nature and significance of OPA price standards and a chapter on each of the basic standards developed by OPA including the industry earning standard, the minimum product standard, the reconversion and transition pricing standards, and the decontrol standards. It also includes chapters on the basic legislative standards for agricultural commodities, the Bankhead-Brown Amendment applicable to cotton, and Barkley-Taft Amendment of 1946. Finally, there are chapters on the changing character of product price adjustments and on individual seller adjustments including adjustment of abnormally low prices under the General Maximum Price Regulation.

Pricing standards of OPA were closely associated with the techniques of control used in the early period of price control. At that time OPA depended to a large extent upon the techniques of freezing base-period prices or base-period pricing formulae. Consequently, the pricing standards established by OPA were concerned not with the adequacy of prices in general but rather with the conditions under which prices became unfair and inequitable and consequently required upward adjustment.

The basic standards developed by OPA were the industry earning standard and the minimum product standard. Under the industry earning standard, prices of an industry were considered fair and equitable so long as the earnings of the industry equalled or exceeded its earning in a representative peacetime period, with due allowance for changes in investment. In general, the representative peacetime period was taken as the years 1936-1939. The minimum product standard was developed for multiple-product industries to supplement the industry earning standard as a method for determining whether the level of ceilings on particular products was fair and equitable. As finally formulated, it provided that sales prices on particular products or product lines of a multiple-product industry should be sufficiently high to allow the producers of the bulk of the output by dollar volume to receive their out-of-pocket costs.

Both of these standards were essentially relief standards in their original conception. It is not surprising that OPA faced many difficult problems in defining the concept of an industry, in determining profits, in measuring changes in net investment, in selecting a representative base period, in defining "out-of-pocket" costs, and in determining a satisfactory measure of the "bulk of the output." Supplementary standards were developed for multiple-product industries with substantial single-line members, for segments

of industry in special economic situations, and for industries whose current earnings were abnormally distributed as between individual producers. More liberal standards were developed for industries subject to reconversion or transition at the end of the war.

It is interesting to note, however, the pervasive influence of the two basic standards which in rough form were adopted early in the war and their impact on the thinking and operations throughout the price control establishment. It is equally interesting to note how slow OPA was in developing explicit meaning for these general standards. It is clear that, given the general strategy of price control, these standards were extremely useful as interim devices designed to force industry to absorb cost increases and to minimize the immediate administrative burden of price control upon OPA. In retrospect, however, it may be questioned whether the adoption of these two standards was not taken too seriously by the price controllers and whether their preoccupation with holding the price line did not divert their energies from devising standards and procedures which might have been more effective both in facilitating the necessary adjustments within the economy and mobilizing public support behind the price control program. The Bankhead-Brown Amendment, Barkley-Taft Amendment, the prohibition of highest price-line limitations, and the controversy over reconversion pricing and decontrol standards are all examples of successful attack upon OPA's basic standards resulting from pressures of interested groups and the exasperation of congressional and public opinion. OPA's principal function was to facilitate the war effort directly through facilitating necessary production and indirectly through promoting social and political stability. Holding the price line was a tactic, not an end. It is probable, however, that if the principle of a controlled price system had not been in dispute, OPA might have moved more rapidly to a solution of the pressing problems of facilitating production.

Changing Production Patterns highlights the inadequacies of the pricing standards under the conditions which prevailed during World War II. This volume is concerned with several problems faced by OPA in maintaining the production of necessary commodities. Although price control seemed to work in the early period without developing serious problems of production, with the passage of time it appeared that the price incentives were such as to induce serious shortages in some critical areas such as food and low-price items of textiles and clothing. These relative shortages developed for various reasons. In certain cases they were the result of errors in original price ceilings, for example MPR 127 covering textile converters. In other cases they were the result of increasing incomes and the shift of demand from low-price to high-price items. In still other cases they were the result of differences in the profitability of various items of production in the base period and a desire on the part of the manufacturers to take advantage of the increasing demand for high-profit items under wartime conditions. Finally, in the case of the feed-food problems the difficulty arose from the fact that the relations between parity prices, which were the statutory guides to price

control in this case, were not the appropriate relations to encourage the desired pattern of food production. Consequently, OPA was faced with a series of crises in food, textiles, clothing, consumers' durables, and building materials.

It is to these problems that *Changing Production Patterns* is devoted. The study includes a section on the relations between OPA and WPB in developing price and production controls in textiles and apparels and a section on restrictive pricing designed to affect production patterns, such as the highest price-line limitations, MPR 127 controlling the converting industry, and the maximum average price plan (MAP). It also includes a section on various incentive pricing schemes developed for textiles, clothing, and consumers' durables and a section on the feed-food price problem.

With a few exceptions, the discussion is concerned primarily with general policy problems and makes only incidental references to the structure of the industries involved and the statistical effects of the policies pursued. However, these chapters throw a good deal of light on the pricing practices of various industries in both peace and war. It is clear from reading these chapters that although the economic system is not as sensitive as has been sometimes supposed, nevertheless there is considerable flexibility in the system. Over a period of time, resources are quite mobile under conditions of high-level demand. Even under wartime controls, manufacturers and distributors made substantial shifts in the direction in which they devoted their resources as a result of shifts in demand and differences in the profitability of various lines.

In the early period OPA clearly operated on the assumption that its principal objective was to hold the price line and that if serious problems of supply developed, the solution was to invoke production directives through WPB and the Department of Agriculture rather than to attempt to manipulate the controlled price structure so as to produce desired production patterns. The principal exception made to this was in the military goods area, an extremely important area which is hardly mentioned by either of the two volumes under review. Controversy soon developed between OPA and WPB, however, over the relative place of production directives and price incentives in insuring the desired production patterns. After considerable struggle between OPA and WPB, in which the Office of Economic Stabilization (OES) and the Office of War Mobilization and Reconversion (OWMR) were referees, it became clear that WPB's contribution to these problems would be small and consequently that need for price relief was greater than OPA had hoped.

This controversy served, of course, to delay the price relief and thereby helped to preserve the integrity of the statistical price line longer than might otherwise have been the case. The supply problems which resulted, however, led to scarcities which increased the cost of living more than the BLS index indicated. Moreover, the delay in facing these problems and the controversy over the methods to be used did much to weaken the support of the price control program by industry, Congress, and the public. It is unfortunate that those in responsible positions, especially in OES and

OWMR, did not resolve the controversy between OPA and WPB sooner.

These two volumes focus attention upon several major problems of price control in a wartime economy. To what extent should the objective of holding the price line become a dominant objective of the pricing agency? To what extent should price be used to facilitate the desired allocation of resources? To what extent should production controls be used in the civilian goods area? These are critical problems which must be faced by our war mobilization planners. These studies of the pricing standards used in World War II and of the problems of maintaining necessary supply deserve careful attention in all future planning.

JOHN PERRY MILLER

Yale University

Monopoly. By E. A. G. ROBINSON. (Cambridge: University Press. New York: Pitman Pub. Corp. 1941. Pp. xvi, 298. \$2.00.)

This book, one of the Cambridge Economic Handbook series, undertakes an analysis of the economics, forms, practices and effects of monopoly (and oligopoly), together with a survey of monopoly problems and public policy in the United States, Germany, and Great Britain. It is first-rate, as one would expect it to be.

The analytical portions of the book are tightly reasoned and tightly written; the author's skillful operation on monopoly pricing and output policies, and the relation of monopoly to productive efficiency and industrial stability is performed with confident precision. As a descriptive artist, Robinson is less conspicuously successful. He draws too heavily upon worn-out materials in the case both of the United States and Great Britain; the discussion of monopoly in Great Britain is a little remote from the firing line; and the handling of American antitrust legislation and litigation is inadequate.

Robinson's conclusions are neither new nor startling, but they gain strength from development and formulation at his hands. He belongs to the school which finds (correctly, in my judgment) the "monopoly problem" fully present in oligopoly, and which sees antitrust actions as resetting rather than solving our difficulties:

Two very important conclusions follow. . . . First, monopoly price is fully as much a consequence of the attitude of a small number of firms to each other, of the assumptions they make regarding each other, as of formal or informal agreements. We cannot assume that where there is no agreement, even of a tacit nature, competition exists. It all depends upon what one manufacturer thinks another manufacturer is going to do. It follows, therefore, that what we may call the detective story approach to the study of monopoly, the search for mysterious hidden agreements, is really a waste of time. Their existence may prove something, their non-existence proves nothing. Second, if we discover a condition of monopoly it is highly unlikely that we can with any certainty re-establish a condition of competition merely by breaking up that monopoly into a few constituent parts. It is very much more likely that

we shall substitute the uncertainties of a cat-and-mouse monopoly for the certainties of an open one (pp. 29-30).

In view of arguments recently advanced, it is gratifying to come upon Robinson's conclusion that while a monopoly may be able to stabilize the fluctuations in its own income during a depression, "it is likely to achieve its ends only at the cost of increasing the fluctuations both of its own output and of the incomes and welfare of others." This constitutes

a most serious indictment of monopoly. For we must not forget that it is the main justification of the existence of the entrepreneur that he carries the main risks of industrial production. If, through the creation of monopoly, he seeks to transfer those risks to the shoulders of others, he will inevitably suffer the universal fate of all redundant members and be replaced by some new organism better fitted to fulfill this function. Thus those who seek through monopoly to make the world safe for capitalism are probably doing more than anyone to ensure its ultimate destruction (p. 167).

The one point at which Robinson's analysis seems to me to be less than penetrating is in his treatment of the problem of economic power (p. 183 ff.), although it is certainly to his credit that he sees monopoly as a problem of power as well as of profit. Irresponsible power, more than any other characteristic, seems to me to constitute the undesirable feature of monopoly; but I would emphasize that it is the existence of such power and not alone its misuse that is abhorrent. Certainly its possible employment along the lines suggested by the author (pp. 185-86), where the monopolist chooses to be guided by economic considerations, does not impress me as a striking example of the evil of monopoly. Beyond this, however, and in the same area, Robinson in common with a number of other writers appears to confuse the problem of concentration of power within the corporation (consequent upon the growth of large-scale corporate enterprise) with the problem of concentration within the economy (consequent upon the growth of monopoly). The two problems are interrelated, of course, and concentration of control within the corporation certainly aggravates the dangers flowing from monopoly; but the problems are quite distinct and should be so treated.

The author has no pat remedy for monopoly. He recognizes that "when we turn from the present to the future, and from what is to what ought to be, we move inevitably from the field of objective fact into the field of subjective judgments. We cannot prove by logic how we ought to act" (p. 273). He considers three alternative policies—inaction, mitigation and abolition—and points out that the choice between them cannot be made on economic grounds alone. The decisions involve

our most deep-rooted political, social, economic, even religious principles. But we cannot be blind to these broader issues which impinge upon our studies, and pretend that they lie beyond the horizon of a strictly defined economics. If we seek to exclude them wholly from our scope, and more especially from the scope of an examination of monopoly, we shall confine ourselves to a profitless academic discussion of an unreal world (p. 288).

This is sound. But he might well have gone on to emphasize that we would be wise to make up our minds. With the forces of concentration growing stronger by the hour, a failure to decide constitutes in itself a continuing decision in favor of monopoly.

BEN W. LEWIS

Oberlin College

The History of Basic Metals Price Control in World War II. By ROBERT F. CAMPBELL. Studies In History, Economics and Public Law, No. 541. (New York: Columbia University Press. 1948. Pp. 263. \$3.25.)

This is a case study of wartime government control in an area in which price increases were kept to a minimum. The author states that the work, submitted as a doctoral dissertation, was conceived and executed while he was on the staff of the Office of Price Administration with the benefit of free access to official files.

Basic metals included in the study are iron, steel, aluminum, copper, lead, zinc and the scrap metals. A composite index of basic metals prices, on a monthly basis, 1939-1945, is compared with the Bureau of Labor Statistics wholesale price index by way of pointing up "success" in stabilizing metals prices. Monthly price movements for each of the metals included in the composite index are presented in an appendix.

Emphasis is placed upon administrative aspects of government price control as related to this particular group of commodities. Five of the eleven chapters cover such topics as techniques of price control, pricing standards, adjustments of price, etc. In addition, two chapters are wholly devoted to the premium price plan for copper, lead and zinc.

In the chapters on the administration of price control the author undertakes to present the major developments and considerations that were pertinent in policy decisions. For this purpose he has drawn upon his own experience and upon interviews with various members of the OPA staff in addition to using official statements and office memoranda. In discussing the early, informal, controls the author indicates the significance for the program of prewar pricing practices and the role of "administered" prices. The author points to the later difficulties resulting from functional division of authority and in a concluding chapter he points to the need for closer integration of production management, price control and labor allocation in the event a comparable program were put into effect at some future date.

Discussion of the premium price plan for copper, lead and zinc and a concluding chapter entitled "Prices, Production, Costs and Profits under Price Control" contain material and data of particular interest to the economist. The circumstances which cause a condition of "increasing costs" in mining operations are discussed without a labored use of the technical term or the marginal concept. Similarly, the non-ferrous metals differential, or discriminatory, pricing program is viewed in terms of economical government procurement and contrasted with the bulk-line pricing system followed in World War I.

At various points Dr. Campbell acknowledges the value of several of the early volumes in the OPA and WPB series of historical studies and in his Preface he calls attention to the OPA sponsored study, *Studies in Industrial Price Control* which appeared after his own work was completed. Several further volumes in the series have appeared since then, and the study *Problems of Price Control: Stabilization Subsidies* presents collateral material especially useful in considering savings effected by the government through use of the premium price plan.

As distinct from the government sponsored studies, the contribution of *Basic Metals Price Control In World War II* lies in the discussion of specific problems associated with government control over a group of related, standardized commodities, oriented in terms of the over-all interagency program. As such, it is a useful addition to historical studies on price control and on basic metals.

THEODORE F. MARBURG

Princeton University

Public Utilities; Transportation; Communications

Men, Cities and Transportation: A Study in New England History, 1820-1900. By EDWARD CHASE KIRKLAND. 2 vols. (Cambridge: Harvard Univ. Press. 1948. Pp. xvi, 528; ix, 499. \$12.50.)

The literature of transportation history is enormous, yet its quality leaves much to be desired. Many corporate histories of our major railroads carry the story of construction, finance and consolidation, but seldom contribute much to an understanding of the historical and economic role filled by the lines. Popular histories retail the romance of the rails and of other types of transportation—the early turnpikes, the canals, and more recently, in great profusion, the airways. All of these works lack comprehensiveness. Few pretend to weave the story of transportation into other phases of contemporary history in order to trace the reaction of improved transportation upon the economy and the reciprocal impact of the economy upon the course of transportation development. Few attempt to integrate the technical developments of the means of transportation with their reflection in service and rates and thus in the fortunes of industries, communities and regions—in short, to place transportation into focus among other factors responsible for economic growth and decline.

Aside from a few popular works, transportation history has for the most part been treated fragmentarily since the excellent *History of Travel in America* by Seymour Dunbar (4 vols., 1915) and the comprehensive *History of Transportation in the United States Before 1860* by Caroline E. MacGill and associates (1917). There is no recent history of transportation in America and there are few regional studies. New England, an area set apart somewhat by geographical and historical determinants, has a certain distinctiveness of transportation development which has given rise more often than other regions to treatment as a whole. The excellent *Formation of the New*

England Railroad Systems by George P. Baker (1937) and the more recent and popular *Steelways of New England* by Alvin F. Harlow (1946) are examples, but their objectives were limited and their treatment is specialized. Now comes, however, a serious historical study of New England transportation which in scope and scholarship surpasses earlier efforts.

Professor Kirkland suggests his point of view in the preface: "It is time for us to subordinate the phases of promotion and construction and explore, more fully than we have hitherto, the problems of rates, services, securities, technological changes, government policy, labor and management. . . . I have simply sought to treat the New England transportation system as a human response to the changing needs and ambitions of that area" (p. vii). A careful reading of these highly interesting pages will demonstrate that he has achieved substantial success in what is no doubt the most significant regional transportation history produced in recent decades. To the economist, historian or geographer the work is of large value in understanding an important element in the development of the New England economy.

The view of New England's pre-railroad transportation presented here is the most complete this reviewer has encountered. Of particular interest is the author's careful exploration of the routes taken by the western trade and of the relationships established between the ports and the interior as a result of topographic conditions unsurmounted by economical transport. The roots of Boston's difficulty in securing a share of the western business are well developed. The whole picture is thoroughly documented by reference to contemporary sources, many hitherto unexplored for their potential contribution to the history of transportation.

The era of railroad promotion is enriched in this treatment by the author's continuing concern with the specific hopes and aspirations of localities and groups, with the struggles surrounding state and local aid, and with the problems in experimentation encountered by not merely the railroad builders and operators but by public bodies as well. Of particular interest is the discussion of the early conflict of ideas with respect to proper rate-making policy centering about the divergence in the viewpoints of the Boston and Worcester and the Western Railroad managements. The sweeping penetration of boards of directors into such managerial concerns in this early period is well brought out. The driving urge for end-to-end consolidation even where the independence of connections was without threat developed naturally from the problems of making joint rates and agreeing upon divisions. It collided at once with the deep-seated antipathy of the community to monopoly translated into terms of mere size of the corporate enterprise.

Boston's frustration in its efforts to channelize a significant portion of the western trade through its own commercial and port facilities provides an important connecting thread through much of the first volume. The nature of the physical barriers which turned trade into the less costly channels toward New York during the pre-railroad era is carefully detailed, the characteristics of the resulting trade indicated, and the preferred transportation routes described. To many it will come as a surprise that the Lake

Champlain-Hudson River-Long Island Sound route was a customary one for freight movement between western New England and Boston and other port cities. And such traffic passed through New York and was in imminent peril of being short-circuited. The affinity of the Connecticut Valley towns for New York as their trade center is well known.

These, then, were the conditions which Boston aspired to alter by means of railroad development. Her success was decidedly limited, for New York State stood athwart the routes to the greater west, the New England railroads got no farther than Lake Ontario and Troy, and their connections from thence westward were in unfriendly hands. As the story of the physical development of the railroad system is chronicled, so also are the vicissitudes of the rate structure portrayed with care. Although this is a regional history, it contains a more thorough exploration of the efforts to control the trunk-line rate wars and to bring order into the rate structure east of Chicago than do other works which treat of this subject. It shows clearly, too, the conflict between the desires of the New England farmers for high rates on the western produce and the desires of the commercial centers for low rates on the same traffic.

Much emphasis is rightly placed upon the moving spirits behind the growth of improved transport—the prophets, promoters, financiers, engineers, critics and others connected in one way or another with the railway enterprise. The closeness of the ties between railroad promotion and politics are perhaps more concretely portrayed here than in most other works of railroad history. And the few dissenting representatives of the public interest are always appearing in these pages with their crusades for reform. New England, of course, gave rise to the earliest railroad commissions and a few of them were clothed with powers going beyond those merely of investigation and report. The Massachusetts Commission, reflecting the strong personality and strenuous endeavors of its first chairman, Charles Francis Adams, Jr., led the way in much that was important in the improvement of safety and the regularizing of rates and accounts. This work suggests that the accomplishments of these early state commissions have been hitherto underrated and that they deserve greater emphasis in the history of transportation regulation. Of great interest is the conservatism of New England railroad managers. The practical tradition here went to extremes which set back the application of proved technology by many years, long after successful use had been made on the roads of other regions. Indeed the long adherence to tried practice and rule of thumb is perhaps without equal elsewhere and at other times in American railroading. It would appear that the Massachusetts Commission particularly deserves much credit for jolting the railway managers out of their comfortable life in the past.

In sum, here is a contribution not merely to the synthesis of the hitherto known history of the New England transportation system, but one which also adds in significant ways to our knowledge of that history. Moreover, it is a well-written and consistently interesting account.

ERNEST W. WILLIAMS, JR.

Columbia University

Land Economics; Agricultural Economics; Economic Geography

Real Estate Analysis. By WILLIAM H. HUSBAND and FRANK RAY ANDERSON.
(Chicago: Richard D. Irwin. 1948. Pp. vi, 576. \$5.00.)

Whatever connotation the term "real estate analysis" may have for the reader, it likely will not fit the content of this book. But it is of little importance that the volume is mistitled for between its covers is a most useful compendium of real estate knowledge; the field is well covered and the text reads the more easily by reason of a mildly discursive style and a thread of politico-economic philosophy. The authors see as the paramount real estate problem the "reconciliation of the public and private interest."

This volume might be characterized as a work of descriptive or behavioristic economics. It is institutional economics without a theoretical binder. There is no distinguishable "economics" of real estate, no orderly theoretical framework which ties together the subject matter into a recognizable structure; only by implication is there a linkage with general economic theory. But in spite of a preoccupation with social control and governmental intervention, there is a real understanding of the economics of the real estate market though it be expressed in other than economic jargon.

The first of five parts of the volume considers Real Estate and the Economy with chapters on the institutional aspects of real property, the importance of real estate in the national economy, a too brief discussion of urbanization, the urban land use structure and city finances, and final chapters on land development and the construction industry with a good presentation of the major problems of house building. Part II is a useful pocket text on the fundamentals of real estate law. Part III, The Real Estate Market, contains excellent chapters on the factors and processes of the urban land market and its cyclical aspects. There is a good chapter on real estate value and less useful discussions of the appraisal process, selling real estate, and property management.

The strongest section of the book is Part IV, The Financing of Real Estate. This strength reflects the background of the senior author, William H. Husband, a former professor of finance, and successively member of the Home Loan Bank Board, manager of a savings and loan association, and presently, general manager of the Federal Savings and Loan Insurance Corporation. On a subject which so rarely receives adequate treatment in current business and economic writings, it is refreshing to read a discussion of substance. The chapters cover the nature of mortgage risk, the operations of the mortgage market, sources of funds in primary and secondary markets, the processes of mortgage lending, and sound lending practice. There is an understandable emphasis on federal intervention in the home mortgage field. From authors so well qualified to pass judgment, the reader might wish for incisive evaluation of governmental policy, but a discreet reticence on the part of authors serving in governmental posts is not unexpected.

The final group of chapters, Part V, The Public Interest, provides the authors with the opportunity to express a middle-of-the-road philosophy on

the public housing issue. There are warnings to private industry to solve its own problems before housing shall be fully socialized and warnings to the public housers that too much governmental intervention endangers our basic economic system. The chapter on taxation states the case for the relief of real estate from an unjustified burden; the discussion of eminent domain is soundly legalistic; planning and zoning are briefly considered with a good section on urban redevelopment. The discussion of the veterans' housing program is primarily descriptive and the final chapter chews over the public-private conflict in the real estate field without finally digesting it.

Except for the section on real estate finance, this volume does not add a great deal to the real estate books of recent years. The several topics have been covered more or less adequately by others, for example, by Colean,¹ Hoagland² and Weimer and Hoyt.³ The authors show less than adequate interest and understanding in dealing with the land use structure of cities. They are not too successful in presenting an "economics" of urban land for they have segmentalized and institutionalized the subject matter until the underlying economic relationships, which might have been laid bare for all to see, are somewhat obscured. But the book does provide an up-to-date descriptive analysis of the primary factors and processes which constitute the real estate market and the institutional framework within which they operate.

RICHARD U. RATCLIFF

University of Wisconsin

Labor

Labor Unions in Action. By JACK BARBASH. (New York: Harper. 1948. Pp. x, 270. \$3.50.)

The outpouring of articles, pamphlets, monographs and textbooks covering various phases of industrial relations has been impressive and almost frightening during the past year or two. Of all these publications, *Labor Unions in Action* is one of the most sensible and least pretentious. Mr. Barbash is widely acquainted with union leaders, familiar with the literature of industrial relations, and capable of discussing controversial subjects without undue excitement. (Only on the subject of "Communist Unionism" does he become really emotional.) As a result, he has written a reasonable and informative volume describing how trade unions are organized, administered and led.

The scope of *Labor Unions in Action* is indicated by the chapter titles: Union Structure and Jurisdiction, Union Government and Administration, Collective Bargaining, The Strike, Extracurricular Union Activities, Union Leadership, and so on. At first sight the approach appears to be quite customary, since all of these subjects are described in previous works such

¹ Miles L. Colean, *American Housing* (New York, The Twentieth Century Fund, 1944).

² Henry E. Hoagland, *Real Estate Principles* (New York, McGraw-Hill, 1940).

³ Arthur M. Weimer and Homer Hoyt, *Principles of Urban Real Estate*, Rev. ed. (New York, Ronald Press, 1948).

as those of Millis and Montgomery, Peterson, and Taft. Mr. Barbash's treatment is distinctive in several respects, however. First is the cool and dispassionate analysis of jurisdictional disputes, working rules, general strikes, picket-line violence and other conventional objects of indignation. Second is the emphasis on opportunism as the guiding principle of union structure, jurisdiction, and strategy. Third, and most interesting, is the vantage point of the analysis. Mr. Barbash is looking through the eyes of the labor organizer, the business agent, the local union president, the international representative, and the other non-commissioned and commissioned officers of the labor movement. As he states, "the perspective throughout is that of the union spokesman who is candidly describing and interpreting his own behavior." For all our studies of pricing and production, most of us know next to nothing of how the business executive really operates; and despite the current effusion of literature on industrial relations, the world in which the union leader moves is still for the most part dark and unexplored.

The picture which emerges is one of an essentially opportunistic institution endeavoring to make its way in the world and keep its head above water. There are great diversities in structure, program and ideology; but "for most unions, organizing new members, administering the affairs of the union, collective bargaining and strikes are the core functions because the maintenance of the union as a going institution depends on the adequate discharge of these functions." The run-of-the-mill union leader is revealed to be neither a latter-day saint nor a cynical and corrupted autocrat; he is governed primarily by the immediate pressures converging upon him, secondarily by his notions concerning "good trade unionism," and to a much smaller extent by his ideological sentiments.

Mr. Barbash's naturalistic approach has great advantages, but it also has a price. The basic limitation is the limited insight of the union leader, who is not especially concerned with the ultimate significance of his activities nor in a good position to appraise it. Thus, it is true that "the usurpation of management prerogatives in any wholesale sense has little attraction for the union as an end in itself"; but this does not mean that, over the years, unions will not insist on playing a continuously larger part in the administration of industry. To state that "management prerogatives are of concern only . . . as they appear to impinge on wages, hours and working conditions" is an accurate description of trade-union mentality, but of no great significance for the long run. Similarly, "it is extremely unlikely that the organized labor movement as a movement, or any substantial segment of it, will lend itself seriously to any revolutionary political upheaval in the United States"; but this does not settle the chronic questions of tendency which the Webbs, Perlman, Tannenbaum, and other students have wrestled with. What is the political drift of the labor movement as it moves along in its opportunistic way? Is it undermining the structure of capitalism, or buttressing it? Who is on the wave of the future—Beck, Lewis, Dubinsky, Reuther or Bridges?

Mr. Barbash does not throw much light on questions of this kind, but then he does not claim to. His book will stand on its own merits as a valuable

account of what makes unions tick and why union leaders behave like union leaders.

ARTHUR M. ROSS

University of California, Berkeley

Personnel Administration: A Point of View and A Method. By PAUL FIGORS and CHARLES A. MYERS. (New York: McGraw-Hill. 1947. Pp. ix, 553. \$4.50.)

This book on personnel administration is designed as a college textbook. It primarily presents and provides an illustrative application of a technique of analysis of personnel problems. It avoids all industrial relations and economic problems as outside of the personnel man's primary interest. The authors build upon the work done by the Harvard Business School at the Hawthorne plant of the Western Electric Company and share the interpretations of human relations popularized by F. J. Roethlisberger. The cornerstone of this book is therefore the study of a worker's attitude to his job, management, and supervision. Industrial case work is the approach toward the solution of problems. The interview is the tool for getting the facts. Employee counseling, only casually referred to, is the technique for handling the more difficult cases which the regular management line organization is not prepared to solve.

In this context, the successful personnel administrator aims at creating industrial team work to assure "maximum efficiency and competitive advantage" in a plant directed and controlled by top management in its own economic interest. This goal can be best achieved by relieving employee dissatisfactions, *i.e.*, "anything that disturbs an employee whether or not he expresses himself in words."

At the outset the authors report themselves as being handicapped by the current lack of knowledge, as they inform the reader in a footnote (p. 40), that "there is at present no clear-cut agreement as to what these principles (of personnel administration) should be." The book therefore has not a set of unifying principles for interpreting human behavior, though the principal subject is human attitudes. There is no statement of social and economic goals for personnel administration to achieve other than those prevailing among the top management of the industrial enterprise.

The authors do not evaluate the different types of dissatisfactions and the priorities which should be observed in relieving them. Can one hope to resolve all? Are our present industrial, technical, economic, and institutional arrangements compatible with the goal of eliminating human dissatisfaction? Is dissatisfaction an adequate index of the excessive costs of work or economic and social activity? Can all causes of dissatisfaction be reached through the personnel management of the individual industrial enterprise? What do you do about the residue of unrelieved dissatisfaction? What is the personnel man's responsibility in dealing with unresolved personal conflict? How adequate for the purpose of eliminating industrial dissatisfaction is the approach by way of the individual dissatisfaction? These and many kindred problems

are not raised in this book. The discovery of personal maladjustment because of personal conflicts has narrowed the range of interest in the "labor problem."

By building their system of personnel administration around a method of analysis, the authors subordinate the discussion of substantive matters to the description of the procedure of handling them according to this approach. The book acquaints the personnel administrator with the case-method approach toward relieving worker dissatisfaction with the hope of advancing management's objectives. The interviewing technique is used to get data on attitudes. The information is to be analysed according to the "situational thinking" process which requires the personnel administrator to consider the technical features, the human factors, the principles (which are unavailable) and policies, and the time factor.

With these aids the personnel administrator can perform the following staff functions: (1) "advise and assist the line organization in the personnel approach (skillful handling of people both as individuals and as group members); (2) to diagnose the stability or morale of the organization as an effective work team, by means of various indexes of team work such as productive efficiency, absenteeism, accidents, labor turnover and internal mobility, and complaints and grievances; and to keep the line management informed of actual or potential difficulties that need their joint attention; (3) to provide personnel procedures and services such as recruitment, hiring, selection, training, wage and salary administration, safety education, etc., as an aid to the line officers in getting more effective results through the people under them; (4) to secure coordination and control of these activities through top management, which has full responsibility for seeing that they are uniformly and consistently administered."

The text is most explicit and confident in discussing the methods of diagnosing organizational stability and in dealing with "the building and maintaining work teams" as they relate to personal relations and reactions. In the analysis of substantive problems such as wages and hours and the presentation of the issue of employee participation in production problems the authors limit their discussion, take highly cautious and qualified positions, and do not fully relate the handling of these crucial issues to their main theme, namely, handling human dissatisfaction.

The overwhelming interest in method of analyzing problems makes the book most useful as a practical interpretation of the findings of the Hawthorne inquiry. A student of personnel problems would have to use other texts to gain actual instruction and practice in interviewing, in the analysis and understanding of human behavior and motivation, in the administration of specific personnel techniques, in industrial relations, labor problems, social movements, trade-unionism, and current economic and political problems. The text presents little information on the limitations of current personnel techniques, their misuse, and the unrest created by their application. Supplementary data would have to be distributed to acquaint the student with these matters. The reader is not encouraged to develop a scientific attitude

toward these techniques as the authors fully adopt the current management "code of the ways of organizing and treating individuals at work."

Trade unions are approved by the authors but they assign them a modest role within this system of management controlled personnel administration. It is to aid in "opening a new channel for complaints." The authors do not inquire into the share of responsibility the union should have in resolving dissatisfaction and its effect on the duties and rights of management.

The trade union arises from the long period of repression and second-rate citizenship suffered by workers. It expresses his frustrations and hopes, and yearnings. They arise from the experiences both within and outside the plant. One gains the impression that the aim of this proposed approach is to minimize the dissatisfactions associated with the job, management, and supervision. Possibly, it is hoped thereby to divert workers' dissatisfactions. Will the volume of dissatisfaction be reduced? What new target should the dissatisfaction seek? What success can such an approach have? Will it lead to even greater frustration?

Management sorely needs data and analysis which will give it a better understanding of the "labor problem." Adequate personnel administration can be built only on a broad understanding of the worker, his language, his personality (which is vastly different from the prototypes commonly proposed to management), his institutions, his values and demands. The social scientist has unfortunately done little to enlighten our American people on this score. An adequate textbook must rest on a broader base of knowledge and inquiry than is offered by this book.

This volume is supplemented by a rich collection of well-presented case histories. Questions are submitted to aid and guide discussions and to illustrate the method of analysis. The rounded bibliography definitely complements the text and offers the student guides on the source of ideas and further development of specialized knowledge.

SOLOMON BARKIN

New York, N.Y.

Population; Social Welfare and Living Standards

Population Analysis. By T. LYNN SMITH. (New York: McGraw-Hill. 1948. Pp. xii, 421. \$4.50.)

This book, which is primarily a study in demography, has been written as a text for an introductory course in population. The purpose of the author is to summarize important population facts and to stress proper methodology in population analysis. In his opinion, the emphasis by others on what is generally termed "population problems" is to be avoided. "The avoidance of the pathological emphasis [on such problems] is deliberate." He desires to train the student in the techniques of population analysis and does not believe that it is desirable to deal with many phases of population study which he regards as entirely speculative and philosophical.

The material for this study is divided into six main divisions or parts.

These parts are as follows: number and distribution of the population; composition; the vital processes; migration; growth; and conclusion. The general plan is to begin with an analysis of world data and conclude with a study of the figures for the United States. Part I consists of a single introductory chapter which gives estimated population throughout the world by countries and concludes with the number and distribution of people in the United States. These figures together with land areas emphasize the unequal distribution of people throughout the world. There is also included a short discussion of the concept of the optimum population. In Part II will be found a detailed analysis of population by race, age, marital and educational status, religion and occupation. The subjects of fertility and mortality, called the vital processes, are taken up in Part III. Here the student will find an interesting treatment of birth and death rate differentials, the problem of measurement of fertility, and the declining birth rate. The study of migration in Part IV comprises four chapters. An attempt is made in this division to summarize the important sociological studies dealing with the selectivity of migration. One chapter is devoted to internal migration. The growth of population, together with the related topics dealing with techniques for estimating this growth, are treated in one single chapter. Smith believes that an official estimate for our next census of approximately 145,460,000 is about one and one-half million too low. He has little regard for any idea that some practical use might some day be made of the concept of the optimum population. In the final part there are no elaborate or striking conclusions.

In keeping with the objectives set forth in the beginning, there is a plea for a more thorough analysis and study of demographic materials rather than speculative and unfruitful discussions. Studies of actual demographic materials are much to be preferred over the theories of "armchair philosophers." Only by the assembly, classification and study of population facts can we make the analysis realistic and meet the need for many public services such as education and health. No attempt is made to outline any definite population policy for the United States. Our immigration policy, he says, will come in for increasing attention. It is the author's opinion that no national policy with respect to the fundamental matter of the birth rate is likely to be developed in the near future as the question of birth control is a highly controversial issue.

When the reader examines this book and compares it with *Population Problems* by such writers as Thompson or Landis, he will find that the author has succeeded well in leaving out much material considered to be irrelevant and unnecessary. Here he will not find the familiar discussions of such topics as "danger spots," the city, or the various population theories. It is difficult to get away from habitual ways of thinking. The study of population is often said to begin with Malthus, yet there is only slight mention of him, in the last pages of the book. The name of Malthus is not listed in the index. The author is unalterably opposed to the whole idea of "mankind at the crossroads," yet nothing is said to refute the belief which

many still hold that there is an essential element of truth in the Malthusian doctrine in the long run. Little is given about the population policies of foreign countries or of the policies which have been discussed and proposed for this country. Smith has elaborated numerous techniques of population analysis and has left out some of the most basic questions and problems in the entire field.

Much reliance is placed upon the graphic methods used in this study, many of which are said to be original with the author. The most frequent type of chart is that of a map with density or other quantitative data represented by circles (Fig. 86, p. 179). This map chart with balls for quantitative data is repeated many times throughout the entire book (pp. 22, 41, 52, and numerous others). The difficulty of making accurate comparisons from maps of this character is a very old and familiar fact. Larger quantities are better shown by a large quantity of symbols, not by larger symbols. "We must remember that if one circle has a diameter twice as great as another, then the first circle has an area four times that of the second."¹ To overcome this objection, the author often sets out in the legend various circles with figures. It is not at all certain that the general criticism of this type of map chart has been overcome. It seems certain that many readers will have difficulty in following the data of various charts with curves showing figures of mortality or birth trends. The differences between the curves are so slight and there are so many curves on the chart that it is almost impossible in some instances to follow those of a particular country (for example, see pp. 136 and 224).

Although this book will probably not displace the type of population text now in general use, it will provide valuable supplementary reading material. It contains an abundant amount of demographical material brought up to date. The general conclusions based on this material are sound and free from bias. Several valuable suggestions for improving statistical data are given, and there are many interesting facts about the historical development of methods and practices. Population students will welcome Smith's book as another valuable study in a field of learning in which there is a constantly growing interest.

LAWRENCE R. CHENAULT

Hunter College

¹ Croxton and Cowden, *Applied General Statistics*, pp. 134 and 144.

TITLES OF NEW BOOKS

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NOTES

The following have been appointed members of the American Economic Association nominating committee for the current year: Simeon E. Leland, Northwestern University Chairman, James K. Hall, University of Washington, Margaret G. Reid, University of Illinois, Lloyd G. Reynolds, Yale University, Edward C. Simmons, Duke University, and Wolfgang F. Stolper, Swarthmore College. The chairman of this committee would appreciate receiving any suggestions for officers for next year as soon as possible.

The Sixty-second Annual Meeting will be held in New York City, December 27-30, 1949, with headquarters at Hotel Commodore. President Howard S. Ellis, of the University of California, would be glad to have suggestions from the members of the Association with regard to subjects for the program and persons qualified to present them.

BOOKS AND JOURNALS FOR EUROPEAN ECONOMISTS

Miss Mabel Newcomer, chairman of the Committee for Providing Aid to European Scholars, reports that there are many unsatisfied requests for books and copies of economic journals by libraries and universities. She requests that members of the Association make further contributions of books and journals as soon as possible. They should be sent to her, Department of Economics, Vassar College, Poughkeepsie, N.Y.

Necrology

Bernardo Cevallos, Date not known.

Fred E. Clark, November 26, 1948.

Bert C. Fuller, March 29, 1948.

William A. Frame, December 21, 1948.

Charles W. Gerstenberg, September 15, 1948.

Thomas W. Lamont, February 2, 1948.

James McC. Mitchell, October 14, 1948.

Gerald Morgan, October 13, 1948.

Homer N. Sweet, May 18, 1948.

Appointments and Resignations

Charles W. Anrod has been appointed associate professor of economics at Loyola University, Chicago, Illinois.

Frederick C. Armstrong has been appointed instructor in economics at Michigan State College.

Henry B. Arthur has resumed his duties as economist with Swift and Company after having served as chief of the Office of Program Review and Recovery Progress in the Paris office of the Economic Cooperation Administration.

L. Jay Atkinson was appointed lecturer in economics for the winter term at George Washington University.

Mary Lee Bodwell has been appointed assistant professor of agricultural economics at Michigan State College.

Arend E. Dör has been promoted from associate professor to professor of commerce at the University of Pittsburgh.

Leon A. Bosch has been promoted to professor of business administration in the School of Commerce, Northwestern University.

M. Bronfenbrenner, of the University of Wisconsin, has been awarded a World Area Training Fellowship by the Social Science Research Council for study of postwar reconstruction in Japan and plans to spend the academic year 1949-50 engaged in field work in Japan.

Robert E. Carmody is an instructor in economics at Loyola University, Chicago, Illinois.

Charles F. Carson was appointed professorial lecturer in economics for the winter term at George Washington University.

D. R. Cawthorne was appointed head of the department of economics at Miami University, Oxford, Ohio, effective September, 1948.

Gabriel F. Cazell, formerly of American University, is now professor of economics at Kalamazoo College.

John M. Clark, of Columbia University, was awarded the degree of Doctor, *honoris causa*, by the University of Paris in November, 1948.

Richard M. Clewett has been appointed assistant professor of marketing in the School of Commerce, Northwestern University.

Erwin B. Cochran has been advanced in rank from assistant professor to associate professor of accounting at Baldwin-Wallace College.

Camille W. Cook has been appointed instructor in business law in the department of economics and business administration at the Alabama Polytechnic Institute.

Morris A. Copeland has resigned from the Board of Governors of the Federal Reserve System and returned to teaching at Cornell University as professor of economics.

Richard Donham has resumed teaching as professor of business administration in the School of Commerce, Northwestern University, after several years of business.

James S. Earley, professor of economics at the University of Wisconsin, has been granted leave of absence for the current semester.

Clarence W. Fackler, professor of accounting at the School of Commerce, Accounts and Finance, has been promoted to assistant dean of the Graduate School of Business Administration, New York University.

W. A. Flinn has been appointed instructor in economics in the School of Business Administration, Emory University.

Dascomb R. Forbush has been appointed assistant professor of business economics in the School of Commerce, Northwestern University.

Charles D. Forrest has been appointed assistant professor of advertising in the School of Commerce, Northwestern University.

Harold G. Fraine has resigned as assistant director of research for the Joint Committee on Investment Research of the American Life Convention and Life Insurance Association of America to accept a position as professor of commerce in the School of Commerce, University of Wisconsin.

Walter Froehlich has been promoted from associate professor to professor of economics in the College of Business Administration in the Graduate School, Marquette University.

Frank H. Gane has been promoted to associate professor of finance in the School of Commerce, Northwestern University.

Paul R. Gawthrop has been appointed instructor in economics in the department of economics and business administration, Marietta College.

Roy E. Geeting is now teaching in the department of economics, University of Tampa.

Milton Gilbert is on leave from the Department of Commerce to serve as director of the research and budget department of the American-Jewish Joint Distribution Committee in Paris.

Joseph M. Gillman is associate professor of economics and business administration, and head of the department of economics at Suffolk University.

Melvin L. Greenhut has joined the staff of the department of economics and business administration, Alabama Polytechnic Institute, as assistant professor of finance.

Gertrude Grodski has been appointed assistant professor of economics at Loyola University, Chicago.

Cyril Haas has been appointed lecturer in economics at the University of Miami.

Kenneth B. Haas has been appointed professor of marketing at Loyola University, Chicago.

William Haber has resumed teaching at the University of Michigan after a year's service as special adviser on displaced persons to General Lucius Clay.

Jean C. Halterman has been appointed instructor in business organization and management in the College of Business Administration, University of Nebraska.

Abram L. Harris, of Howard University, has become associate professor of economics at the University of Chicago.

O. E. Heskin has returned to the University of Florida as head of the department of economics.

Hans Heymann has been appointed visiting professor of economics and foreign affairs at the University of Illinois for the current academic year.

Paul L. Howell has resigned from the School of Commerce, Northwestern University, to accept an associate professorship in finance at the School of Commerce, Accounts and Finance, New York University.

E. Jay Howenstine, formerly economist in the Office of Historian, UNRRA, has been appointed member of the economic section of the International Labour Office, Geneva.

H. J. Hudek, formerly of Iowa State College, has been appointed associate professor of economics at the Alabama Polytechnic Institute.

Holland Hunter has been appointed assistant professor of economics at Haverford College.

George B. Hurff has joined the staff of the University of Florida as research economist and associate professor in the bureau of economic and business research.

Leonid Hurwicz has returned to Iowa State College after spending a year with the Economic Commission for Europe of the United Nations, at Geneva, Switzerland.

Nathaniel Jackendoff, formerly of the University of Illinois, has been appointed assistant professor of economics at Washington and Jefferson College.

George Jaszi was appointed lecturer in economics for the winter term at George Washington University.

Eliot Jones, of Stanford University, is visiting professor of economics at the University of Washington during the spring quarter.

Jacob J. Kaplan has resigned from the Department of State to become a research associate, Institute of International Studies, Yale University.

Harold Kelso has been appointed professorial lecturer in business administration at George Washington University.

Willis R. Knight has been promoted to assistant professor of agricultural economics at Michigan State College.

Robert J. Lampman is assistant professor of economics at the University of Washington.

H. David Maloney has been appointed instructor in economics at DePauw University.

Daniel Marx has been granted a leave of absence from Dartmouth College to serve with the Economic Cooperation Administration in Paris.

C. Arnold Matthews has been appointed assistant professor of finance at the University of Florida.

Donald J. May is on leave from Emory University to continue his graduate work at the University of Chicago.

E. M. McCracken has recently been appointed controller of the University of Miami, Florida.

John B. McFerrin has been appointed head of the newly organized department of business organization and operation at the University of Florida.

Erskine W. McKinley, formerly of Birmingham-Southern College, has been appointed assistant professor of economics at the Alabama Polytechnic Institute.

Stewart Y. McMullen has been promoted to professor of accounting in the School of Commerce, Northwestern University.

Herman L. Meyers was appointed lecturer in economics for the winter term at George Washington University.

T. A. Mogilnitsky has been appointed chairman of the department of economics at Loyola University, Chicago.

Grady L. Mullennix has been appointed instructor in economics at the University of Texas for the current academic year.

Grover A. J. Noetzel, professor of economics at the University of Miami, Florida, has been appointed dean of the School of Business Administration.

Hugh Norton has been appointed instructor in economics at the University of Maryland.

Drakon B. Odom has been appointed instructor in accounting at the University of Florida.

Vincent A. Perry, formerly of New York University, has been appointed instructor in finance at Lehigh University.

J. Marvin Peterson has resigned from Miami University to accept a position with the Federal Reserve Bank of Minneapolis.

George S. Petras is an instructor in economics in the College of Business Administration of the University of Georgia.

Earl Phillips has joined the faculty of the School of Business Administration, Emory University, as instructor in business law.

Ronald M. Reifler has been appointed instructor in economics and statistics at Claremont Men's College.

Edward E. Rennhack has been appointed instructor in accounting in the School of Commerce, Northwestern University.

L. P. Rice has resumed his teaching at Dartmouth College after a semester's leave of absence.

Merrill J. Roberts has been appointed assistant professor of transportation and economics at the University of Florida.

Orville W. Roberts has been appointed professor of industrial management in the School of Commerce, Northwestern University.

Ned H. Scott has been promoted from teaching assistant to instructor in accounting at the University of Florida.

Stanley J. Seimer has been appointed instructor in industrial management in the School of Commerce, Northwestern University.

William B. Seiniger has been appointed lecturer in business organization in the School of Business Administration of the University of Buffalo.

Shou Shan Pu was a lecturer in economics at Michigan State College during the summer and fall quarters of 1948.

Louis Shere has been appointed professor of economics and director of tax research in the department of economics, Indiana University.

Emil G. Spitzer, of the International Monetary Fund, has been appointed lecturer in economics at the Catholic University of America.

John S. Spratt, on leave of absence from Southern Methodist University, has been appointed instructor in economics at the University of Texas for the current academic year.

Robert M. Strahl has resigned from the University of Nebraska to accept an appointment as associate professor of marketing at the University of Tennessee.

George W. Summerhill, formerly comptroller of Baylor University, has been appointed assistant professor of accounting at the University of Florida.

Robert P. Terrill has left his post as adviser on commercial policy in the Department of State to serve as deputy counselor of embassy, economic affairs, in Paris.

Carey C. Thompson is on leave from the University of Texas to pursue graduate work at the University of North Carolina.

E. T. Towne has retired from duty as a member of the faculty and as dean of the School of Commerce, University of North Dakota.

Myron H. Umbreit has been promoted to professor of economics in the School of Commerce, Northwestern University.

R. Miller Upton has been promoted to assistant professor of finance in the School of Commerce, Northwestern University.

Edward T. P. Watson has been appointed assistant professor of business administration in the School of Commerce, Northwestern University.

Murray L. Weidenbaum has been appointed research economist in the Department of Labor of the State of New York.

Lawrence W. Witt has been promoted to professor of economics at Michigan State College.

John A. Wolfard has been appointed associate professor of economics at the University of Utah.

VACANCIES AND APPLICATIONS

The Association is glad to render service to applicants who wish to make known their availability for positions in the field of economics and to administrative officers of colleges and universities and to others who are seeking to fill vacancies.

The officers of the Association take no responsibility for making a selection among the applicants or following up the results. The Secretary's Office will merely afford a central point for clearing inquiries; and the *Review* will publish in this section brief descriptions of vacancies announced and of applications made. It is optional with those submitting such announcements to publish name and address or to use a key number.

Communications should be addressed to: The Secretary, American Economic Association, Northwestern University, Evanston, Illinois.

Vacancies

Money and credit, corporation finance, statistics: Wanted by an Eastern university, man with Ph.D. or doctoral requirements substantially completed, with specialization in these fields. Rank and salary dependent upon applicant's qualifications. P135

International economics, principles, statistics: Wanted, by a well-established Eastern men's liberal arts college, a teacher for international economics, principles, and statistics. To start in September, 1949. Opening is for instructor with salary range of \$2,600 to \$3,000 or for assistant professor from \$3,100 to \$3,700. Master's degree needed for instructorship. Doctorate or near doctorate plus some successful teaching experience for assistant professorship. P136

Economists Available for Positions

Economic principles, public finance, corporate control, banking, investments, and accounting: Man, married, 44, Ph.D., University of Missouri. Sixteen years of successful college teaching; business experience in banking and production work; lieutenant commander, U.S.N.R. Now chairman of social science division and professor of economics in medium-sized, state-supported college. Prefers straight teaching position but would consider combination of teaching-administration work; salary and rank commensurate with responsibilities of the job; prefers Middlewest or West Coast location. Available in September, 1949. E156

Theory, money, cycles, integrated courses: Man, 39, Ph.D. Thirteen years of broad teaching experience, including management courses and some history as well as economics; some experience as an administrator and as a research consultant. Published articles; book to be published soon. E180

Economic principles, labor economics, money and banking, public finance and economic history: Man, 34, married, completing doctoral dissertation. Government economist and teaching experience in courses listed; now head of department in Eastern college. E214

History of economic thought, labor economics, marketing, principles of economics, world trade, industrial management: Man, 30, married, Litt.M. in Economics, working toward Ph.D. Three years of teaching subjects listed above in small Midwestern college; now head of school of business administration, rank of associate professor. Available in September, 1949. E225

Labor (economics, problems, law), economic theory, American economic history, business cycles, statistics: Man, 28, married, M.A., now working on Ph.D. dissertation at Columbia University. One year teaching at major college in New York; 3 years of executive experience in government industrial relations research and labor disputes settlement; 2 years of government administration and research in war materials procurement; sometime assistant in economics at leading university; research aide in labor relations for national business magazine. Available in June, 1949. E232

Economics and business administration: Man, 45, M.A., near Ph.D. Major field marketing but has taught a wide range of economic and business subjects; 17 years of college and university teaching, much of this time as head of departments of

BOOK REVIEWS

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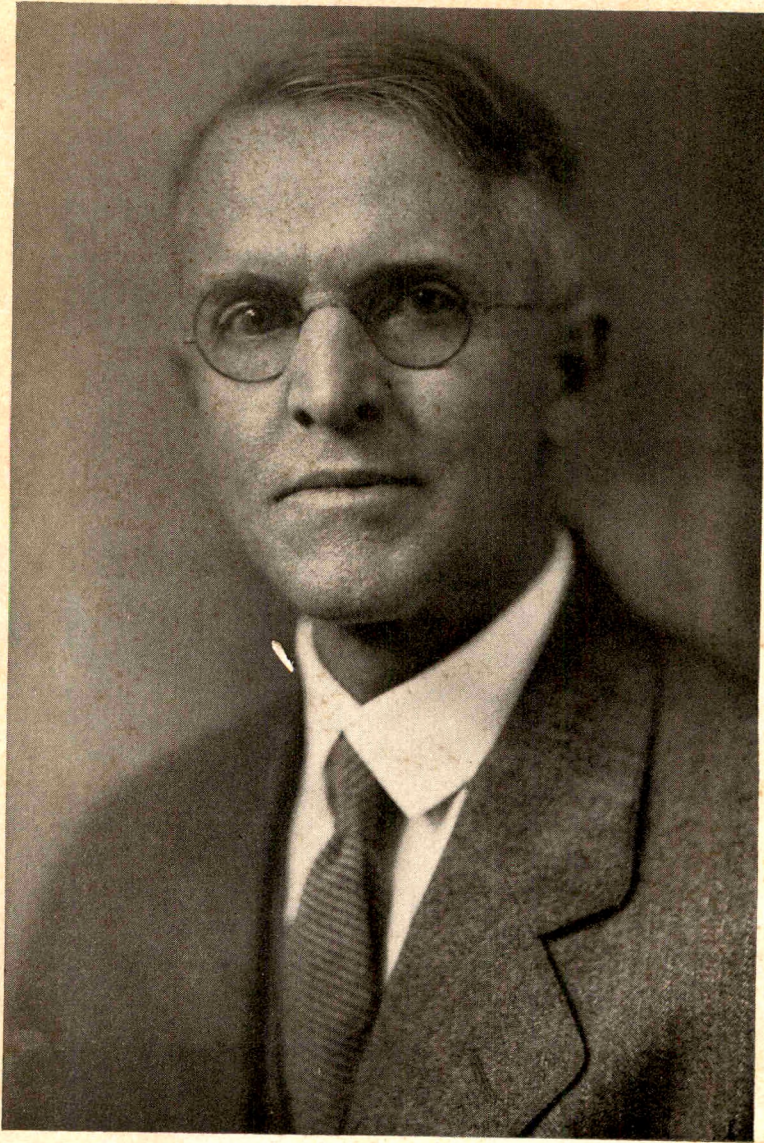
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WESLEY CLAIR MITCHELL

President of the American Economic Association in 1924

A memorial by Frederick C. Mills will be found at page 730.

Number 26 of a series of photographs of past presidents of the Association.



Wesley C. Mitchell

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A CRITICISM OF THE HAVANA CHARTER

By SIR HUBERT HENDERSON*

In their bulk and mass, the International Trade Charter and the Organization which is to administer it resemble a mountain rather than a mouse. Yet the significance and value of what has been achieved with such prolonged and expensive toil are far from clear. The basic principles which the Charter was originally intended to express and to enforce are wrapped up and swaddled in thick layers of exceptions and saving clauses, through which it may be hard for them to penetrate. Nor, speaking generally, is it possible to blame those who have insisted on the exceptions and saving clauses. The basic principles, it is increasingly manifest, could not possibly be applied immediately. Accordingly, the prevailing disposition among supporters of the Charter is apparently to stress its negative value as a restraint. Progress towards the goal of a nondiscriminatory, freely working international economy cannot, it is reluctantly conceded, be made just now; it may even be necessary to acquiesce in various movements in the opposite direction. But such retrograde movements must be carefully controlled and kept within the limits which circumstances really justify. This, it is claimed, is a function of great importance; and for it the International Trade Charter and the Organization are supposed to be well contrived.

This is so modest a claim that it may seem ungracious to question it. Yet I feel obliged to record my fear that the Charter may do more harm than good and may prove more of a hindrance than a help to the creation of a healthy international economy. The harm, it is true, may not be very great, and will mostly be of a less immediately tangible sort than there was once reason to apprehend. Countries to which import restrictions are indispensable in order to correct a large deficit in their balance of payments will not be debarred from effective action

* The author is Drummond professor of political economy in the University of Oxford.

by their Charter undertakings. For these and many other contingencies, the exceptions and saving clauses make what should be adequate, though by no means wholly satisfactory, provision.

None the less, the question is pertinent whether the basic principles of the Charter are really sound and wise. Is the present difficulty of applying them only a transient one? Or does it spring from the fact that these principles are fundamentally ill-suited to the conditions and problems of the modern world? If the latter is true, the consequences of proclaiming them as the goal of policy are bound to be unfortunate. At the least, we must expect disillusionment, cynicism, a sense of frustration and considerable prejudice to the idea of international co-operation. On unfavourable hypotheses, there are more serious dangers to be feared in the years that lie ahead—friction and recrimination, charges of bad faith on the one hand, and undue interference on the other, bedevilling the relations between friendly countries and Anglo-American relations in particular.

The Principles of the Charter

Certainly, if such risks are to be avoided, it seems to me important that what I have called the basic principles of the Charter should be discussed far more freely, critically and objectively than has been customary hitherto. In the lengthy process of semi-official exchanges and fully official conferences which preceded the signing of the Final Act at Havana, discussion of these principles upon their merits played no part. They were a *chose jugée*. The principal governments concerned were already committed to them by the terms of the various Mutual Aid Agreements. It was only the manner in which they should be applied that was still open to argument.

The course of public discussion has been much affected by the same inhibition. British opinion especially has been influenced by a desire to avoid the impropriety of seeming to challenge principles to which we are committed. This reluctance is increased by considerable uncertainty and confusion upon the merits of the case. On the one hand, the principles in question do not seem to square with the policies which it is necessary to pursue. On the other hand, they are in full accord with a long established national tradition which still makes a wide appeal.

Confusion is indeed the chief characteristic of such discussion of the principles as has taken place. It is remarkable how seldom the arguments of the disputants seem to meet. This reflects, in my opinion, a deep confusion of thought in the principles themselves. Desirable aims are mixed up in them with false inferences and unwise behests; and I think it of real importance to try to disentangle them. The desirable aims may be formulated as follows: (a) a large and expanding

volume of international trade, which will permit the fullest possible realization of the advantages of an international division of labour; (b) as a condition of the foregoing, the utmost practicable scope for the processes of triangular or multi-angular trade and payment; (c) commercial policies which satisfy the desire for equity and fair-dealing between nations.

To these aims all sections of British opinion subscribe wholeheartedly and without reserve. It is a commonplace that Britain is far more vitally dependent on imports than any other country of comparable size. The ampler the dimensions of world trade as a whole the easier are we likely to find it to maintain the large external trade that is essential to us. We certainly desire conditions under which we can use exports to one market to defray imports from another, and thus avoid the need for a precise balancing of accounts with each country with which we trade. No country has better reason than Great Britain to fear the spread of "autarkic" ideas throughout the world, or to welcome the establishment of a code of international good behavior which would restrain arbitrary self-regarding acts of national policy injurious to the interests of others.

It may seem only a short step from these propositions to the principles of the Havana Charter, which may be summarized thus:

1. Non-discrimination;
2. Reduction of tariffs on the basis of reciprocal concessions;
3. Subject to a long series of reservations, the outlawry of import restrictions; to which should be added, though it appertains strictly to Bretton Woods, rather than Havana:
4. Free convertibility of currencies.

At first sight, admittedly, these seem appropriate means for achieving the accepted ends. How can international trade be enlarged unless trade barriers are reduced? Are not import prohibitions and restrictions usually the most drastic type of trade impediment, and the one which lends itself most readily to abuse by high-handed application? How can triangular trade be developed without facilities for exchanging one currency for another? What causes more ill-feeling or conflicts more obviously with the instinct of fair-play than discriminatory treatment? Surely, then, the Havana principles are proper ones to proclaim and press, provided that the detailed obligations make due allowance for the difficulties of applying them. All this is plausible, undoubtedly, but in my view it is seriously misleading.

It is misleading because the list of desiderata given above is incomplete. This list omits equilibrium in the balance of payments. The unhappy international economic story of the interwar period, the scarcely more promising experience of the last few years, both show that this is a requirement of paramount importance. Nor is it one which is ade-

quately met by the technique of escape clauses and exceptional provisions. Disequilibrium in the balance of payments is the central problem of modern international economics. No expansion of international trade can be soundly based, nor, therefore, can it prove enduring, unless this far-reaching disequilibrium has been overcome. This is indeed the chief task that confronts international economic statesmanship today, as also European statesmanship and the national statesmanship of many countries. It is a task, moreover, which calls pre-eminently for constructive action.

Non-Discrimination

There could be no more impressive recognition of this truth than that contained in the Marshall Plan. The central features of this plan are, first, the generous provision of dollar aid over a limited period of years, and second, the promotion of greater economic cooperation between the countries of Europe. The latter objective comprises in its turn two elements: appropriate financial arrangements, including aid from the relatively strong to the relatively weak, and the development of intra-European trade. Now this last policy embodies a principle which is very different from that of nondiscrimination. In effect, the Marshall plan says to the embarrassed countries of Europe: "You are finding it difficult to buy all the things you need from the United States. Well, we are prepared to help you for a time, in so far as you really need our help. But you must reduce your calls on us to a minimum. In particular, you must not look to the United States for supplies which you might obtain from one another without much difficulty." On the other hand, the principle of nondiscrimination says in effect: "You must not buy from one another (unless indeed you go so far as to form a Customs Union) goods that you might obtain from the United States or elsewhere at a slightly cheaper price."

There is a contradiction here which seems to me more fundamental and more significant than is commonly admitted. It is true, of course, that the Havana Charter virtually exempts countries which are in serious balance-of-payments difficulties from the restraints of the non-discriminatory obligation, so long as these difficulties remain. And it can be argued without any logical incoherence that this obligation will become appropriate and desirable under "normal" conditions, when these difficulties are supposed to have disappeared. But it is precisely this sharp distinction between the exceptional and the normal which is fundamentally unreal. The restoration of basic equilibrium in the international balance of payments is no mere passing problem of the transition from war to peace. It is a long-term, large-scale task. Actual balance-of-payments deficits must, it is true, be eliminated, willy-nilly,

fairly soon; and disagreeable measures, including drastic import programmes and discriminatory trade arrangements may be needed in many countries for this purpose. But it may be no less necessary to retain such measures, however modified, for many succeeding years, to prevent these deficits from reappearing.

Again, it is true that by forming a Customs Union or free-trade area, or by making an "interim agreement" designed to lead to either of these things, European countries can obtain leave to discriminate permanently in favour of each other. In thus distinguishing between Customs Unions and preferences, the Havana Charter is, of course, in full accord with tradition; the same distinction used to be recognized in the application of the old-fashioned most-favoured-nation clause. The justice of this distinction has, however, long been doubtful. The members of a Customs Union discriminate much more decidedly in favour of each other, as against the outside world, than do the parties to a preferential trade arrangement. It is far from clear why it should be equitable and praiseworthy to practise discrimination in an extreme degree, but inequitable and reprehensible to practise it in a moderate degree. The distinction may be defended by various arguments resting on the plane of practical convenience, but its ethical basis is not easy to discern.

It is a distinction, moreover, which does not fit modern problems and modern facts. Benelux notwithstanding, a genuine Customs Union, in the sense in which the term has been understood in the past, is quite impracticable in the Europe of today. In many countries, import policy has now become, and is likely to remain, one of the main and most vital functions of government. In Great Britain, for example, the standard of living that can be enjoyed immediately, and on the other hand, the prospect of overcoming our balance-of-payments difficulties and maintaining our monetary reserves depend very largely on the rate of expenditure on imports of different commodities from different sources; and this is regulated by our governmental import programmes. This is not a function which the British government could allow to pass outside its effective control. Nor, I suggest, could the government of any other country which is faced with similar difficulties, and which intends to keep any substantial measure of independence. The idea of forming an effective free-trade area, with a uniform treatment of imports from countries outside it, is only really feasible between countries that are prepared to unite politically, and to unite, not in a loose federation, but under a highly centralized form of government.

This truth, however, is not yet as manifest as I believe it will become. Although any full Customs Union is clearly impracticable in

Europe for the time being, it is easy to cherish illusions that the obstacles may eventually be surmounted. It might even be possible, though in practice it would not be easy, to make early progress in adjusting tariff rates towards the requirements of a Customs Union, and to lean more heavily for the essential work of regulating imports on quantitative restrictions, assumed to be an emergency expedient. It may well be, therefore, that the Charter will serve to stimulate arrangements claiming to be "interim agreements" within the meaning of Article 44. In considering whether such claims are justified, the Organization will presumably adopt extremely tolerant standards, under the influence of the prevalent idea that any arrangements of this type represent a desirable development conducive to the general cause of European unity.

For my part, I doubt whether this idea is justified. It is certainly of the utmost importance to develop intra-European trade and to secure a "closer integration" between the economies of different European countries. But it is premature to suppose that we know today at all precisely how these ends can best be served. Arrangements that are really helpful must be highly flexible. To try to force them within the framework of a project for a Customs Union may well prove profoundly unwise. It may lead to subsequent deadlock and breakdown, injurious to the larger cause, which might have been forwarded by less ambitious arrangements. It is almost certain to involve an immense amount of make-believe and casuistry, corrupting to those who take part in it, and exasperating to others. Indeed, if any "interim arrangements" are approved, and a serious attempt is made to enforce the nondiscrimination rule elsewhere, countries which find themselves hampered by it will have good reason to complain that the dice are loaded against them.

Here I may observe that in British eyes the dice of the nondiscrimination rule seem already to be loaded against the preferential system of the British Commonwealth. A Customs Union between Great Britain and the Dominions is clearly impracticable; and no "interim agreement" could be made between them purporting to lead to this. But that is not all. Article 15 permits, subject to certain conditions, the establishment of new tariff preferences between countries which "are contiguous one with another" or which "belong to the same economic region." No such possibility is open to the countries of the Commonwealth which are separated by the oceans. Here the Havana Charter departs from tradition; for preferences between countries belonging to the same political system (and after all the British Commonwealth, despite the looseness of its formal structure, is an association which has stood the test of two world wars) were not regarded as violating the most-favoured-nation clause.

It is scarcely an exaggeration to say that the reduction of tariff preferences within the British Commonwealth is the only consequence of the Charter which is definite and certain. I appreciate the strength of the objections of American opinion to the arrangements of the Ottawa Conference of 1933. None the less I find it difficult to understand what useful purpose can be served by a reduction of Imperial Preference in the altered circumstances of the present day. Its maintenance, and where desirable its extension, could do no real injury to American export trade; for the Commonwealth will always be ready and anxious to import from the United States to the full extent of the dollars it can earn both directly and indirectly by export to other markets. On the other hand, the reduction and restriction of these preferential arrangements must tend in some degree to make it more difficult to restore and maintain equilibrium in the balance of payments between the sterling and the dollar areas.

The Reduction of Tariffs

I have already indicated my opinion that one of the main weaknesses in the philosophy which underlies the Charter is the distorted perspective in which it views the problem of balance-of-payments equilibrium. This should be recognized as a key objective; it should be a primary purpose of economic policy, both national and international, to establish and maintain it; and the provisions of the Charter should have been largely directed to this end. In fact, the Charter treats this vital matter in an essentially passive way. It takes it for granted that the balance of payments will normally be in equilibrium, and thinks it sufficient to concede, almost by way of afterthought, that when countries are threatened by serious deficits they may be allowed to indulge in practices which would otherwise be forbidden to them.

This misconception vitiates the approach to the problem of reducing tariffs. The Charter contemplates that tariffs should be reduced by negotiations between particular countries, based on the principle of reciprocal concessions. This, of course, is the fundamental principle of the American Trade Agreements Act; and it is easy to understand, in the light of the history of the measure, supported as it has been by the low-tariff and criticised by the high-tariff school of thought, that substantial tariff reductions could not be effected at present in the United States on any other basis. This, however, does not alter the fact that the principle in question ignores the possibility of a serious balance-of-payments problem, and is therefore ill-fitted to serve as the basis of international economic policy in the world of today.

Here again indeed there is a fundamental contradiction which is insufficiently appreciated. The principle of reciprocal concessions comes very near to saying that tariff reductions, calculated to increase Ameri-

can imports, can only be made in return for tariff concessions by other countries, calculated to increase American exports by an equivalent amount. This, in turn, comes very near to making it a *sine qua non* of tariff reductions that they should do nothing to solve the dollar problem or to readjust the balance of payments of the world. In practice, doubtless, the principle will be interpreted and applied more reasonably. None the less, it must serve as an obstacle to the rearrangements that are urgently desirable.

The true logic of the problem can be stated in a simple syllogism. To secure a balanced international economy, it is essential that the United States should increase her import purchases by much more than she increases her export sales. Therefore she should be ready to reduce her import duties, although other countries may find it necessary to maintain and even to increase theirs. More generally, it should be for countries to reduce their tariffs and encourage imports, not in proportion to the reciprocal concessions they are able to secure, but in proportion to the strength of their balance-of-payments position.

This, I submit, is one of the main principles on which a wise code of international good behaviour should be based. Doubtless it is still far removed from the region of acceptability to American opinion. Yet the logic behind it is so strong, and is likely to be driven home so insistently by the lessons of events, that I am not without hopes that it will gradually win an increasing measure of recognition and acceptance in the years that lie ahead. To this process, unfortunately, the embodiment of the opposite principle in the Havana Charter must be an obstacle.

In the meantime, it is important to note one influence which the treatment of tariff reductions in the Charter must be expected to exert. It is likely to stimulate and to prolong the use of quantitative import restrictions. If countries that find it necessary to curtail their expenditure on imports are unable to raise import duties for this purpose, they will rely increasingly on the alternative technique of quotas. This will be a paradoxical, and it may be a somewhat unfortunate, consequence. As will soon become clear, I do not personally share the extreme dislike of the quantitative method which forms a main element in the philosophy of the protagonists of the Charter. On the contrary, I believe that concrete or quantitative regulation is likely to play an important part in international economic life for a more or less indefinite future. For many commodities, however, imports are better regulated by duties than by quotas; and it is possible that for some commodities a combination of the two methods would be the most satisfactory arrangement. It is undesirable from every point of view to force the use of the quantitative method. Yet this may well be an

unintended result of the provisions of the Charter. If so, it will be attributable to the false assumption that import restrictions can be abolished altogether at an early date.

Quantitative Regulation, Exchange Rates and the Price System

As it emerged finally from the Havana Conference, the Charter allows quantitative regulation in so many different forms and for so many different purposes as to obscure the fact that the original intention was to prohibit the use of this method, save in the most exceptional circumstances. It is under this heading more than any other that exceptions and escape clauses were multiplied during the long-drawn negotiations that preceded the Final Act; and in practice, as I have just suggested, the Charter may well do more to stimulate than to check the spread of quota restrictions. It remains true, none the less, that in the minds of those who have done most to initiate and to push forward the project of the Charter, a strong dislike of quantitative regulation, as something inconsistent with, and inimical to, a self-adjusting price system, has played throughout a prominent part. It is, I think, more useful to consider the broad issue of economic policy which arises than the detailed provisions of the Charter relating to quantitative regulation.

The position from which I approach this question may be stated summarily as follows. When there are no large maladjustments that must be corrected, or no large readjustments that must be made, the economic system can be entrusted to the forces of the price system with the prospect of reasonably satisfactory results. But in any situation which calls for large-scale readjustment, it is necessary to supplement and sometimes to supersede these forces by more direct measures, consciously directed to the object which has to be attained. The forces of the price system are strong enough to effect small adjustments smoothly; but when the work they have to do is large, they are apt to prove clumsy, wasteful and ineffective.

As a special case of this general rule, countries in balance-of-payments difficulties must use the direct method of quantitative regulation to limit their expenditure on imports, and also apply appropriate measures of control to promote their export sales. That this may be necessary, as a strictly temporary expedient, is not now seriously disputed, even by those whom I call for convenience the ideologues of the price system. But many of them take the line that no difficulties can justify the continuance of such expedients for a prolonged period. If the maladjustment continues for several years, in the sense at least that it would reappear if the direct controls were removed, this proves, they would argue, that there is something radically wrong in the under-

lying price relations of the country concerned; and they believe that if this error were corrected, the maladjustment would disappear fairly soon. In other words, they concede that direct controls may be useful as a stop-gap; but insist that the work of readjustment must be taken over as soon as possible by price-system correctives. The particular corrective which appears to be most fashionable at the moment among adherents of this school of thought is the depreciation of exchange-rates.

This is a point of view which appeals especially to academic economists, who are tempted by a semi-aesthetic appreciation of the harmonious inter-relations of the price system, as pictured by theoretical analysis, to exaggerate its actual virtues. It represents the essence of the answer which some would give to many of the arguments I have used in the course of this article. They would readily agree, for instance, that equilibrium in the balance of payments is no less important than the expansion of international trade. But they would argue that the former object can only be secured by establishing proper price relations through such means as the adjustment of exchange-rates, and that tariffs, import restrictions or other trade impediments, though they may be of some temporary help as a stop-gap, can be no substitute in the long run for correct price relations. Therefore, they would conclude, it is right to concentrate on lowering trade barriers, and in particular on eliminating quantitative restrictions as soon as possible.

Such arguments have an appearance of profundity, which in my view is misleading. It is always important, I agree, to secure price relations which will help rather than hinder any readjustment which has to be made. It does not follow that price relations can be relied upon as the main active force for effecting the readjustment. In particular, there could be no more dangerous idea than that a depreciation of exchange-rates is the sovereign remedy for a balance-of-payments deficit. It is doubtless true that it is helpful to a country's balance of payments that its currency should be "under-valued" rather than "over-valued," though a high degree of "under-valuation" may be harmful. It is most rash to assume that the right degree of "under-valuation" can be brought about by lowering exchange rates. This must tend to raise internal costs, prices, and incomes; and since an inflationary movement is never easy to control, the ultimate result may be to raise internal prices to the full extent of the exchange depreciation. If the idea is that exchange-rates should then be lowered again, in the hope that next time the luck will be better, there is an obvious danger of a vicious spiral of internal inflation and devaluation. The recent experience of Italy and France shows that these are not fantastic pos-

sibilities. Nor should these object lessons have been necessary. The pertinent story of the nineteen-twenties should have been enough.

Of course, if internal inflation has led to a serious over-valuation of a country's currency, exchange devaluation may be essential. Indeed the recent fall of prices in the United States makes it probable in my opinion that it will prove necessary in the end to devalue sterling (together perhaps with other European currencies) relatively to the dollar; though it would be much better, if conditions permit, to defer this until *after* the inflationary trend in our own economy has been brought unmistakably to an end. It is vital, moreover, that any exchange-rate adjustments that are made should be once-for-all adjustments. The idea that frequently occurring exchange-rate variations might provide the regulating spring of an automatic international economy will not, I believe, stand up to critical examination; and the prominent part which it has come to play in modern price-system ideology is a most curious phenomenon. Before 1914, when an otherwise unregulated price system worked tolerably well, exchange rate stability was regarded as an essential feature of it; and it is still, in my opinion, an important desideratum.

Behind the practical dangers which would arise if an attempt were made to apply the new doctrine of exchange-rate variations, lies a more fundamental consideration. A country which has to adapt itself to straightened international means must readjust the structure of its economic life. It must alter its habits of consumption and production. Any necessary reduction of imports will be less injurious to its standard of life, if it is *selective*, falling heavily on some items and sparing others, than if it is indiscriminate. Therefore, a radical change in the composition of the country's imports may be needed. It is an illusion to suppose that such changes can be quickly brought about by price-system forces of any type, unaided by direct controls. In a sense, it may still be true that the need for such controls may prove to be only temporary. It may not continue after the new production and consumption habits have become established, and the country's economy has been recast securely in a new and appropriate mould. But the time required for this is certainly far longer than any that the conception of a transitional postwar period is apt to suggest.

Moreover, it is not only for the work of readjustment that quantitative regulation may be needed. It may also be useful for the purpose of maintaining stability, of minimizing the vicissitudes and disturbances which are apt to occur in an unregulated economy. The experience of the interwar years shows how serious such disturbances may be, and how unsafe it is to rely on the price mechanism to prevent them.

This truth is indeed recognised in the Charter in a few applications. It concedes the legitimacy of import restriction, for the protection and development of certain types of infant industry; and it must be expected that extensive use will be made of this concession.

The chapter on Inter-Governmental Commodity Agreements is based on the proposition that for primary commodities there may be a "tendency towards persistent disequilibrium between production and consumption, the accumulation of burdensome stocks, and pronounced fluctuations in prices." Here, accordingly, the Charter gives some positive support to the idea of quantitative regulation in the form of "commodity control agreements" on an international basis, though it seems unlikely that many such agreements would succeed in practice in running the gauntlet of the elaborate procedure and the rules and principles of Chapter VI. Similarly, Bretton Woods makes provision for the permanent retention of exchange control for the purpose of regulating capital movements; and no one who recalls the mischief that was done in the interwar period by the large erratic scurries of "hot" money can seriously dispute the necessity of this control in a world which has lost its faith in the stability of exchange rates.

Economic instability, however, may arise from many different causes and may take many different forms; and there is a correspondingly large variety of circumstances in which it may be wise to apply direct controls to the external sector of a country's economy in the interests of steady and orderly development. It is foolish to suppose that these circumstances can be adequately provided for by any list of exceptions which is drawn up now. Such exceptions will be apt to emphasize the arbitrariness of banning direct controls in other circumstances in which it may come to seem more justifiable and important to employ them. I can see no escape from the dilemma that those provisions of the Charter which are directed against quantitative restrictions must either be treated as a dead letter, or will arouse a resentment so strong as gravely to prejudice the idea of international arrangements.

* * * * *

These are the reasons why I think it probable that the Havana Charter will do more harm than good. It is ill-related to the very difficult problems which exist and which loom ahead. The true aims of international economic statesmanship are in my view, first, to facilitate the large readjustments in the flow of international trade that are needed to restore equilibrium, and second, to ensure that readjustments are made in such a manner as to cause the minimum of avoidable injury and disturbance to the economic life of the world as a whole, and in particular to that of the United States.

At present the United States is generously providing large-scale financial aid to cover the deficits of Europe. It is very reasonable that Americans should insist that this arrangement cannot continue for very long. But the cessation of Marshall Aid implies an economic readjustment which must take the form, either of a greatly diminished demand for American exports, or a greatly increased importation of European or other goods into the American market, or possibly both; in any event, a large change in the import-export balance of the United States. If at the same time the sellers' markets of recent years are replaced by buyers' markets, the dangers of serious dislocation in the American economy are obviously great. It is urgently desirable that constructive thought should be directed to the problem of how these dangers can best be minimized, without obstructing the task of readjustment. This can only be done along very different lines from those of the Havana Charter.

INTERNATIONAL DISEQUILIBRIUM AND THE POSTWAR WORLD

By RAYMOND F. MIKESELL*

Classical international trade theory was concerned with the maintenance and restoration of international equilibrium through the pricing mechanism. The conclusion that such maintenance and restoration could in fact always be accomplished automatically through the pricing mechanism followed from the assumptions of free competition and the mobility and full employment of resources within each country. The absence of these assumed conditions, which were never fully realized, has made it necessary to consider states of international disequilibrium with respect to which corrective price adjustments are either prevented from taking place or would prove to be inadequate if they did take place.

Any attempt to classify disequilibrium as to types is dangerous because in any given disequilibrium situation more than one causal factor is almost invariably present. It may, however, be useful for purposes of analysis to differentiate between three types of disequilibrium situations: (1) those arising from disparities between internal and external prices and costs; (2) those arising from relative changes in the levels of national income at home and abroad; and (3) structural disequilibrium resulting from shifts in demand and supply conditions in internationally traded commodities or from changes in the invisible items in the balance of payments, which have not been brought about by changes in the relative levels of prices or incomes at home and abroad.

It will readily be admitted that any concrete situation may contain elements of more than one type of disequilibrium. Changes in relative levels of income in different countries are accompanied by relative price movements, while shifts in the structure of production and trade affect both prices and incomes. It is also difficult to determine which factors are *causal* in any given disequilibrium situation, in the sense that an appropriate adjustment of these factors would effect a cure. It may, for example, be found that relative movements in internal prices and costs have taken place but the removal of the disparities may have little effect on the trade balance because of the nature of demand and supply elasticities. Likewise, relative changes in the levels of national income may or may not have a significant effect upon

* The author is professor of economics at the University of Virginia.

trade balances, depending upon the nature of income elasticities of demand for the imports of the countries under consideration.

In considering the factors responsible for a given state of disequilibrium, it is important to distinguish between the problem of equilibrium for the group as a whole and for the individual country. Too often analysis has been confined to the problem of equilibrium for the individual country when perhaps the fundamental cause is to be found in the complex economic relationships among a larger number of countries. There are, of course, abundant cases in which small countries can take steps such as exchange rate devaluation or deflationary action to balance their international accounts without serious repercussions upon the international position of other countries. But where disequilibrium is widespread, corrective measures on the part of individual countries may fail to be effective in eliminating a general disequilibrium.¹ On the other hand, measures taken jointly by a group of countries may achieve beneficial results for the group as a whole which would not accrue to an individual country which undertook the same action unilaterally. For example, an individual country may find that an adjustment of its own exchange rate, all other rates remaining the same, would not materially affect its trade balance. A general adjustment of rates may, however, result in an expansion of trade among a group of countries with the result that the balance of payments problem of all members will be eased. This improvement might come about by reducing the dependence of all members of a particular group of countries on imports from a country whose currency was in relatively short supply. These same considerations with respect to the effects of actions of individual countries on other countries as a group will apply equally in cases of adjustments involving deflationary action or changes in the structure of production. Where disequilibrium is world-wide in character, corrective measures on a multilateral basis including planned alterations in the patterns of production and trade among a number of countries, may be called for. It is this type of disequilibrium situation which presents the most serious problem for the postwar world and with which this article is especially concerned.

The Disappearance of Automatic Correctives

In the decades since World War I, we have witnessed a gradual weakening or elimination of certain forces which in the past have operated to restore international equilibrium once it had been disturbed. The tendency on the part of treasuries and central banks to pursue

¹ For a discussion of the limitations of exchange depreciation for correcting general disequilibrium, see J. J. Polak, "Exchange Depreciation and International Monetary Stability," *Rev. Econ. Stat.*, Vol. XXIX, No. 3 (Aug., 1947), pp. 173-83.

internal monetary policies which are independent of changes in their holdings of gold and foreign exchange was observed in the 1920's and 1930's, and has now become almost universal. While this development tended to eliminate adjustments *via* the specie-flow-price mechanism, the widespread adoption during the 1930's of compensatory fiscal policies which offset decreases in incomes resulting from the emergence of trade deficits had the effect of preventing a restoration of equilibrium through changes in relative levels of money income among trading nations. Since the end of World War II, new interferences with the mechanism of international equilibrium have appeared, some of which may prove to be transitory, but others, depending upon the ultimate outcome of current trends in the character of economic institutions and trade practices among the nations of the world, may prove to be permanent. We may list a few of these developments as follows:

a. *Internal price and distribution controls, international commodity agreements and bilateral trading arrangements.* Such controls and agreements tend to insulate internal price systems from external forces. Changes in prices and in demand and supply conditions in one country are not permitted to have their normal effects on prices in other countries.

b. *The expansion of state trading.* Imports by state trading organizations are likely to be governed by the requirements of planned internal investment and consumption programs rather than by the operation of free-market forces. Likewise, export trade under state control, especially when accompanied by the allocation of resources for the export industries, may tend to be relatively unresponsive to world market conditions. When state trading is combined with bilateral trade agreements, the character of the trade will in considerable measure be determined by the requirements of the bilateral bargaining. For example, countries in a weak bargaining position may have to accept certain unessential or luxury commodities along with the more scarce items which they seriously need.²

c. *Unrealistic patterns of exchange rates.* Improper rates not only make it difficult or impossible for countries to achieve equilibrium without the use of controls, but they tend to direct trade and production for export into abnormal and uneconomical channels. For example, postwar intra-European trade has been characterized by a high proportion of trade in luxury products (where prices are generally uncontrolled) whereas such commodities should either move to the dollar area or not be produced at all. Exchange rates which do not reflect differ-

² *Survey of the Economic Situation and Prospects of Europe* (United Nations Economic and Social Council), reprinted for the use of the Senate Committee on Foreign Relations (Washington, D. C., 1948), p. 101.

ences in prices and costs between countries also tend to encourage barter trade since normal commercial trade at existing rates becomes impossible.

d. *The existence of large international debts which must be serviced in gold or hard currencies.* Debt service payments represent an inflexible item in a country's balance of payments and make adjustments *via* the merchandise balance more difficult.

e. *The inability or unwillingness of nations to achieve internal price stability.* Many nations have plans for reconstruction and development programs which will require large annual capital outlays for the next decade or more. The constant pressure for higher wages and the demand for social reforms and betterment of the working classes may, however, mean a level of savings insufficient to finance such programs except by inflationary devices. Whether inflation is open, *i.e.*, accompanied by price rises, or suppressed, *i.e.*, accompanied by rationing and price controls, imports will be encouraged and exports discouraged and a balance will be difficult to maintain. Under inflationary conditions, either foreign exchange rates must be permitted to rise or import controls must be employed. Most governments, however, prefer controls to devaluation since devaluation increases the prices of essential commodities which in turn adds to the internal inflationary process.

f. *The almost universal adoption by governments of fiscal and monetary policies which seek to control the volume of monetary demand independently of the volume of monetary reserves and of the balance of payments.* The whole principle of automatic correctives rests on the assumption that internal monetary demand will be responsive to changes in the payments balance without deliberate interference on the part of the economic authorities. The existence of inflexible prices plus the power of trade unions to prevent wage reductions even in the face of unemployment, may require the monetary authorities to offset the effects of an adverse balance in order to avoid severe depression.

In the light of the above developments, it seems unlikely that automatic correctives will be available for maintaining a reasonable degree of international balance, even after the present structural maladjustments brought about by the war have been eliminated. Internal economic policies are likely to be determined primarily with reference to governmental planning considered necessary to achieve domestic objectives such as full employment, capital reconstruction and development, and higher living standards for the masses. Foreign trade and exchange policies must be adjusted to the needs of the domestic economy for carrying out these objectives. Under these circumstances, many nations may be unable to adopt foreign economic policies which

are consistent with a current international balance achieved without the use of controls.

The Significance of International Equilibrium

The concept of international equilibrium as it is generally used in economic literature is based on the classical postulates of a world in which economic decisions are made by free private enterprise operating without governmental interference, except for tariffs. The usual test of whether or not a country is in equilibrium is to determine whether total receipts from current transactions plus long-term capital imports are equal to total current payments plus long-term capital exports. A true equilibrium in the classical sense cannot exist if it is achieved by means of exchange and trade controls. But, in a country which maintains a high degree of internal economic controls, direct or indirect control over foreign trade is almost inevitable. A nation is not likely to nationalize its steel industry and permit free foreign trade in steel, nor is a nation which finds it necessary to allocate scarce materials among domestic producers likely to permit free foreign commerce in these scarce materials or the products manufactured from them.

The question arises as to what significance the concept of equilibrium has for controlled or partially controlled economies. In the case of state-controlled economies, we might define equilibrium in terms of internal and external cost-price relationships.³ Thus a nation would be in equilibrium if it purchases everything abroad which could be obtained at prices below domestic costs and exported everything not consumed at home at prices which covered domestic costs, provided total receipts and expenditures were equal after adjustment for long-term capital movements. It is theoretically possible for planning to achieve just this result, but this ideal has never been approached by planned economies either because the planners have been more concerned with non-economic ends or because of poor planning. One difficulty is that the government rather than the ultimate consumer may frequently make the decision to increase or decrease imports. Suppose, for example, that the government decides to expand its purchases of foreign capital equipment. In order to maintain equilibrium, shifts in internal production and in aggregate monetary demand would have

³ It should be pointed out that the political authorities in controlled economies may have non-economic ends which often conflict with economic ends such as the maximization of real national product, e.g., the carrying on of economic warfare or the liquidation of the Kulaks. Moreover, different economic ends may conflict. For example, efforts to secure a more equitable distribution of income for the purpose of maximizing welfare may conflict with the maximization of the national product in the future. Hence, in defining equilibrium for any given nation we would need to take into consideration both economic and non-economic ends.

to be made so that imports of consumption goods will be reduced or exports increased sufficiently to restore the balance without rationing and without violating price-cost ratios. In so-called "mixed" economies where the government controls investment in certain fields and hence imports of capital equipment, the problem of adjustment would appear to be even more difficult than in completely controlled economies.

A definition of equilibrium in terms of internal and external price-cost relationships is not likely to be very useful in dealing with immediate problems, although it has theoretical significance as an ideal for all countries to strive for. A practical concept of short-term equilibrium must take into account the organization of the particular economy under consideration and the economic objectives which the economic authorities have in mind.⁴ Thus in a relatively free economy the balance should be achieved with a minimum of trade controls. On the other hand, in a controlled economy one would expect controls on external trade which were consistent with internal controls and with the objectives of the planning authorities. If it were the policy of the economic authorities that the nation could not afford to consume certain luxury commodities, their importation as well as their domestic production would properly be forbidden. Or if the government decided to use a larger proportion of the nation's foreign-exchange receipts for imports of capital equipment and to direct consumer expenditures away from imports, appropriate controls might be employed.

How then shall we define short-term equilibrium for a controlled economy? It can only be defined in terms of some deliberate plan for the employment of the resources of the economy and the distribution of the product among the consumers. Presumably the economic authorities will determine certain production goals and certain standards of consumption consistent with the productive capacity of the country. We might define equilibrium for a controlled economy as a condition in which current foreign-exchange receipts were sufficient to pay for that volume of imports necessary to (1) carry out a production plan based on the most efficient use of existing productive resources and plant capacities in the light of consumption and investment goals, (2) achieve a predetermined program of investment, and (3) maintain a predetermined level and composition of consumption. The level of capital investment may be determined by the amount which the economic authorities believe is necessary to achieve equilibrium at some point of time in the future in the light of the consumption goals of the planning authorities, or it may be dictated by the requirements of military pre-

⁴ It must be kept in mind that these economic objectives may be dictated by underlying political objectives.

paredness. The consumption goals may be related to some historical or accustomed level or to that level which is believed to be the minimum necessary for political stability.

In the case of "mixed" economies, the concept of equilibrium must take into consideration the ability of the country to balance its international accounts without the aid of exchange and trade controls outside of the controlled sector, while at the same time financing those imports necessary to achieve its pre-determined goals in the controlled sector. For example, the government might control imports of all industrial raw materials, capital equipment, and basic foodstuffs but in the absence of balance-of-payments difficulties would permit free importation of other categories of commodities.

If in the case of controlled or partially controlled economies short-run equilibrium as we have defined it is consistent with the existence of trade controls, what are the criteria for determining the existence of disequilibrium? Clearly a country is not in equilibrium if its current receipts of foreign exchange, including normal capital imports,⁵ are insufficient to pay for the raw material imports required to maintain its industries at the desired level of production, the imports of essential commodities needed to maintain pre-determined standards of consumption, the imports of capital equipment and materials for planned investments, and for its various commitments on invisible account. It may turn out that balance-of-payments equilibrium in the short run is impossible except at the cost of a disruption of important industries, the shelving of urgent reconstruction projects, or a politically disastrous reduction in living standards. This is indeed the situation among many of the countries included in the European Recovery Program. When a disequilibrium develops, controlled economies must either draw on their reserves, obtain financial assistance from abroad or reduce their imports. Unless there exists a substantial volume of luxury or nonessential imports, a reduction in imports may be quite difficult to achieve in the short run because the economy is geared to a particular level of import requirements. In time, industries can be reorganized, substitutes for imported commodities can be found and standards of consumption can be altered. Equilibrium in controlled economies, however, is eventually restored not so much by the effects of the shift in the balance of payments on incomes and prices, but by a realization of the plans of the economic authorities for the achievement of their investment and consumption goals without further for-

⁵ Normal capital imports exclude emergency loans and grants from other countries and international lending organizations. They would include loans from the World Bank and the Export-Import Bank for planned capital investments.

eign assistance or the liquidation of reserves, or by a revision of their basic economic plans and objectives.

In the case of partially controlled economies, an evidence of disequilibrium would be an extension or tightening up of existing import controls or the failure to achieve desired objectives in the controlled sector. Additional exports might be brought under the licensing system and perhaps an effort made to increase exports by diverting resources from commodities produced for home consumption. Restoration of equilibrium in partially controlled economies can be said to be completed only after temporary restrictions on transactions in the uncontrolled sector have been removed. Thus, if the economic authorities have brought raw materials, investment goods and basic foods and fibers permanently under state control, but normally permit the free importation of consumers' goods, any restriction on the importation of consumers' goods might be considered as a departure from equilibrium, unless similar restrictions or taxes were placed on domestically produced goods of the same general type. The latter would of course represent an extension of the controlled sector of the economy.

To say that disequilibrium exists for controlled economies when plans are not realized may be open to the charge of question begging. However, there is a genuine need for a working concept of equilibrium applicable to controlled economies.⁶ The concept of balance-of-payments equilibrium is employed in the decisions of international financial institutions such as the Monetary Fund and the World Bank, and plays an important role in determining the need for financial assistance under the European Recovery Program and other U. S. government foreign aid programs. It is an important tool in international economic analysis generally and needs to be redefined to conform with current realities. The point to be kept in mind is that disequilibrium has significance only in the context of the organization of the economy under consideration, and of the objectives of its planning authorities. The fact that a country is unable to achieve a balance in its international accounts can no longer be employed as a criterion for the granting of short-term financial assistance in the expectation that the balance will in time be automatically restored. Nor can this fact always be considered as a sufficient justification for exchange depreciation or other remedial actions on the part of the country concerned.

Balance-of-payments deficits may be planned or unplanned under

⁶ See my "Role of the International Monetary Agreements in a World of Planned Economies," *Jour. Pol. Econ.*, Vol. LV, No. 6 (Dec., 1947), pp. 497-512. See also my "Reply" to a criticism of this article, *Jour. Pol. Econ.*, Vol. LVI, No. 5 (Oct., 1948), pp. 446-50. It has been suggested that we need a new term such as "planned international balance" to describe equilibrium for controlled economies.

controlled or partially controlled economic systems. Obviously such deficits will not be planned unless the means of meeting them are available. The deficits of the ERP countries are planned, and the Economic Cooperation Administration has asked the countries receiving United States financial aid to plan their investment, production, and trade so as to enable them to achieve certain consumption goals by 1952 without further United States assistance. Whether or not the realization of these goals, assuming they can be realized, will mean equilibrium for the European Recovery Program countries, depends upon the organization of their economies and their ability to achieve a balance in their international accounts without the use of restrictions which violate the basic principles of their particular economic organization, *e.g.*, import quotas needed for balance-of-payments reasons imposed on types of commodities the consumption of which is normally not controlled.

Controlled and "mixed" economies may also experience unplanned deficits in their balance of payments. Among the causes of unplanned disequilibrium we may cite war and national disasters, crop failures, strikes and political disturbances, domestic inflation, the inability to market exports abroad either because of price factors or shifts in foreign demand, or simply poor planning and forecasting. In the case of "mixed" economies where production and distribution are only partially controlled, planning and forecasting become much more hazardous and consequently equilibrium more difficult to maintain. For the uncontrolled sector of the economy reliance must be largely on indirect controls of a monetary and fiscal nature.

Thus far, we have spoken of disequilibrium in terms of a country's over-all balance. In periods when currencies are almost universally inconvertible a country may be in over-all balance but because of the inability to convert current surpluses with some countries into the currencies of other countries, that country may find it necessary to direct its trade by discriminatory measures. Such measures would include discriminatory import regulations against the country whose currency was in short supply and perhaps measures designed to increase exports to that area. Although this is a clear case of disequilibrium for the country concerned, the country may be the victim of a worldwide disequilibrium. In such cases the remedy may lie beyond the power of the individual country acting unilaterally, except at the cost of far-reaching changes in the pattern of its international trade.

Sources of Postwar Disequilibrium

In discussing the sources of postwar disequilibrium, it is important first of all to make clear just what kind of disequilibrium we are talk-

ing about. The vast majority of the countries have what we have called "mixed" economies with varying degrees of governmental control. The long-run objective of most of these countries is to achieve a large measure of consumer choice with respect to home-produced and imported commodities alike, and also to restore to private enterprise a large measure of freedom as to what to produce and where to sell, and where to buy raw materials and capital equipment. Unless these countries can count on foreign assistance for an indefinite period of time, they must either achieve equilibrium in the sense in which we have used it in the preceding section, or they must abandon certain of their economic objectives. The alternatives may be the abandonment of certain investment or social welfare objectives, or the objectives of restoring freedom of consumers' choice and freedom for business enterprise in certain fields. The failure of a "mixed" economy to restore freedom of consumers' choice and freedom of business enterprise in those sectors of the economy for which such freedom is required in accordance with the basic structure and objectives of the country concerned will be considered as an evidence of disequilibrium for that country. One of the reasons for such failure may be the fact that the restoration of economic freedom is found to be incompatible with other economic objectives considered to have a higher priority. Disequilibrium for a "mixed" economy would also be evidenced by an inability to purchase with current foreign-exchange receipts sufficient imports to achieve a reasonable level of productive efficiency and standard of consumption, consistent with its productive resources. This would also be an evidence of disequilibrium for more or less completely controlled economies. In the following paragraphs we will discuss the sources of postwar disequilibrium in the special sense in which we have just defined it.

The major source of disequilibrium in the immediate postwar period has been the destruction and general dislocation caused by the war itself. Given a few years of peace and adequate Western Hemisphere assistance to rebuild and restock the major economies of the world so as to permit a return to something like prewar per capita production levels, the disequilibrium resulting from the physical destruction and temporary disruption of production and commerce caused by the war can be eliminated. What we are concerned with here are possible sources of disequilibrium which may persist perhaps for the next generation or more, after production has been restored to a level approximating the potentialities of the human and material resources of the countries of the world. For purposes of analysis I have classified these sources of disequilibrium in four categories: (1) relative changes in levels of real national income; (2) domestic economic instability; (3) changes

in international creditor-debtor relationships; and (4) shifts in the structure of world production and in the character of world demand. Both (3) and (4) may give rise to what was called "structural disequilibrium" in the opening paragraphs of this article. However the changes in the "income from investment" account in the balance of payments of most trading countries have been so significant as to warrant separate treatment. These four categories are by no means water-tight and it will be readily seen that developments in any one of them will affect the other three.

1. *Relative Changes in Incomes*

Of the four general sources of disequilibrium outlined above, probably the greatest emphasis in recent years has been placed on relative shifts in national incomes as the leading cause of disequilibrium.⁷ This concern is largely based upon the fear of another major depression in the United States. While I quite agree that relative shifts in the levels of national income may be an important factor contributing to disequilibrium in the postwar years, it is by no means certain that economic conditions of the early 1930's will be repeated. In fact, there is reason to believe that national governments are not likely to permit prolonged and severe depressions in the future. Not only have the governments of nearly all major countries, including that of the United States, accepted as a matter of national policy the responsibility for maintaining high levels of employment, but the increased functions of government have brought a substantially larger proportion of the national income under the control of governmental authorities.

Although we may not again see depressions of the 1929-1933 proportions, shifts in the relative levels of income may still be an important source of international disequilibrium. Short-term cyclical movements in incomes and employment and perhaps extended periods of moderately high unemployment are of course quite probable in the United States and other countries where economies are largely uncontrolled. Although controlled economies will also be subject to fluctuations in real income and employment with changes in the structure of production, governmental authorities are better able to maintain total monetary demand. Hence, money income, if not real income, is less likely to decline in the controlled economies than in the relatively free economies.

If we are to separate relative changes in national income from other causal factors, we must consider only changes in real income. In spite

⁷ See, for example, T. Balogh, "The International Aspects of Full Employment," *The Economics of Full Employment* (Oxford Institute of Statistics, 1944).

of the fact that, barring depressions, real income in the United States may continue to increase at a rate of 3 to 4 per cent per year, it is quite possible that real incomes in many undeveloped areas of the world will rise more rapidly than in the United States. The industrialization programs of Latin America and Asiatic countries, and perhaps a more efficient utilization of human and material resources in previously undeveloped or primitive areas may well make for a rapid expansion in real incomes the world over. Thus disequilibria from shifts in relative incomes in different countries may come not so much from depressions in the United States as from continually rising incomes abroad. The propensity to import in most countries of the world is undoubtedly higher under present conditions than in the United States where a diversified economy supplies most of the things for which consumers have a high income elasticity of demand.⁸ Given a higher propensity to import abroad than in the United States, disequilibrium could accompany an increase in incomes in the rest of the world at the same rate at which United States national income increases. But this situation may only be true in the short run. The potential demand for foreign goods of a luxury or semi-luxury type requiring a high proportion of labor may turn out to be quite large if foreign sellers were to market and advertise on a nation-wide scale.

2. *Domestic Instability*

The Western World has lived so long in fear of unemployment and deflation that the possibility of a generation of more or less continual inflationary pressures has not been given very serious consideration. Yet if economies in which investment decisions are made by private enterprise tend toward underinvestment, economies in which investment is largely in the hands of the state may suffer from the opposite condition. Moreover, once the economic authorities have adopted a policy of maintaining full employment and have equipped themselves with the necessary monetary and fiscal instruments for carrying out this objective, errors in planning and forecasting are likely to be made only in the direction which involves the less serious political consequences.

Almost every country, from the most backward agricultural countries to the more advanced industrial ones, has reconstruction and development plans requiring large amounts of capital and foreign ma-

⁸ Dr. T. C. Chang in an article entitled "International Comparison of Demand for Imports" has calculated the income elasticity of demand for imports for a number of countries. In the case of highly industrialized countries like the United States and the United Kingdom, income elasticity is shown to be substantially lower than income elasticities in less industrialized and agricultural countries. *Review of Economic Studies*, Vol. XIII (2), No. 34 (1945-46), pp. 53-67.

terials and equipment.⁹ This development is likely to affect the demand for United States products in two important ways. First, the demand for United States capital equipment may be maintained at a relatively high level for the next generation or so, since barring another world war, only the United States may have the surplus productive capacity to meet world needs for a large number of capital items. Regardless of competitive price adjustments there would be only one country capable of meeting the demand. A second way in which the potential demand for United States commodities may be sustained at a high level is through the increased purchasing power of the masses in the countries undergoing rapid capital development. In many countries industrialization will undoubtedly be accompanied by a redistribution of income in favor of the working classes at the expense of landed aristocracy or other property owners. Such redistribution will mean a reduction in the propensity to save and an increase in the propensity to import. At the same time, the development projects will be absorbing a large share of the foreign exchange receipts and may in some cases reduce the proportion of material and human resources available for the production of exports.

In order for large-scale capital projects calling for an accelerated rate of capital accumulation to be financed from internal sources without inflation, it is necessary either to have unemployed human and material resources or to put into operation a rigorous system of fiscal, monetary,¹⁰ wage, and credit controls which will restrict purchasing power to the amount of available consumers' goods. External financing through loans or grants for developmental purposes are likely to be limited to the foreign exchange required to purchase the materials and equipment directly employed in the project itself and which are not available from internal sources.¹¹ Ordinarily one-half to two-thirds of the expenditures on capital projects are made for local materials and services. In few countries outside of the United States is there a large volume of volutary saving available for domestic investment, and rapid capital accumulation can only be realized at the expense of living standards which are already low relative to prewar standards. Moreover, few governments have the courage to take the necessary steps to curtail

⁹ See *Economic Report: Salient Features of the World Economic Situation, 1945-1947*, United Nations, Department of Economic Affairs (Lake Success, Jan., 1948), pp. 243-55, for a summary of investment projects in various countries.

¹⁰ Some economists believe that a substantial increase in the volume of savings can be induced by raising interest rates, although in the opinion of the author there are severe limitations on purely monetary measures.

¹¹ For example, neither the World Bank nor the U. S. Export-Import Bank will ordinarily make loans to finance local currency expenditures in the borrowing country.

the purchasing power of the masses as a means of reducing real consumption. The propensity to save has been generally reduced by mounting taxes on the wealthy and most countries are seeking to raise the real incomes of the masses by an extension of social services. The net result is that capital accumulation in many foreign countries is being financed in large measure through inflation.¹²

For many countries, the need for rapid capital investment in order to achieve the structural changes necessary to realize international equilibrium within a relatively short period presents a real dilemma. If monetary incomes are restricted to the point where consumer demand just equals the current output of consumers' goods, the expansion of production in certain fields may be accompanied by a disruption of other industries. Inflexible wage policies on the part of labor unions plus the necessity of attracting labor and resources to the investment industries may render extremely difficult the realization of production goals in the face of disinflationary policies. Disinflationary measures may also be hampered by the existence of sizeable accumulations of liquid assets in the hands of the public which could be used to defeat attempts to lower consumption standards on the part of the holders. It is quite likely, therefore, that many countries will find it impossible (for political and economic reasons) to carry out large investment programs and avoid a certain degree of domestic inflation at the same time.

How long will disequilibrium from these sources continue? Essentially what we are confronted with are the international repercussions of a worldwide trend toward the socialization of investment, *i.e.*, the transfer of investment decisions from private to governmental or quasi-governmental authorities. We are also confronted with the international repercussions of a redistribution of income in favor of the masses and a general weakening of the influence of the international pricing mechanism in economic decisions over production and consumption. In time, patterns of economic controls may be evolved which will restore domestic stability and international equilibrium. The new capital instruments may raise real per capita income (unless defeated by population pressure) and economic authorities may adopt appropriate controls which will relate money incomes and voluntary saving to the level of capital expenditures. Finally, imports for investment purposes will have to be planned in relation to the over-all demand for imports in such a way as to avoid either a balance-of-payments deficit or an in-

¹² The ratio of gross domestic investment to gross national product is substantially higher than prewar in the case of many European countries. For example, in the case of the United Kingdom the ratio was 20.4 per cent in 1947 as compared with 14.5 per cent in 1938. (Source of data: *National Income and Expenditure of the U. K., 1947* [Md. 7371]) A similar increase in this ratio appears to have taken place in France and the Netherlands.

crease in the scope of direct consumer controls not contemplated by the basic plan for the economy.¹³

3. *Changes in Creditor-Debtor Relations*

A source of postwar disequilibrium which especially affects the United Kingdom and certain countries of Continental Europe is the loss of prewar sources of invisible income. In 1938, net invisible income for Europe as a whole from non-European sources amounted to about \$2.1 billion, an amount which equaled Europe's deficit on trade account.¹⁴ In 1947, Europe had a net deficit on invisible account of \$0.6 billion, \$0.4 billion of which was with the United States. A part of this deterioration in Europe's invisible account is due to a temporary reduction in tourist trade and shipping services, and we may look forward to a rapid restoration of these sources of income. The large overseas expenditures for maintaining troops and fighting colonial wars, and for relief in occupied areas may also be regarded as temporary. However, approximately a billion dollars of the reduction in Europe's net invisible income is accounted for by a net reduction in income from foreign investment, about half of which can be attributed to the United Kingdom alone.

Although income from investments in certain of the war-devastated areas may be eventually restored, the over-all position of Europe on investment account is certain to deteriorate with the making of interest payments on the large dollar loans. From July 1, 1945 through June 30, 1948, loans and credits to foreign countries by the United States government totaled nearly \$12 billion and an additional \$1.2 billion was loaned or committed by the World Bank and the Monetary Fund. If we add to these amounts long-term private investments abroad since the war, we reach a figure of over \$15 billion on which service in dollars must be made, the vast bulk of which must come from the countries of Western Europe. Over the next three years, assuming that the Economic Cooperation Administration program is continued, total foreign investment on both private and governmental account is likely to increase by another three to four billion dollars, with perhaps an additional \$2 or \$3 billion in loans from the World Fund and Bank. The net effect of these loans upon the international balance of payments will of course depend upon whether or not new loans will continue to be made in amounts sufficient to offset repayments. Private foreign investments probably cannot be counted on to maintain the necessary gross level of investment so that the outcome becomes largely a matter

¹³ For example, if consumers are to be denied certain luxuries they should be denied both foreign and domestically produced luxuries of the same category.

¹⁴ See *A Survey of the Economic Situation and Prospects of Europe*, p. 55.

of United States governmental lending policy. But interest payments alone on over \$20 billion in additional foreign indebtedness will absorb a significant portion of the dollar income of the rest of the world.¹⁵

4. *Structural Changes*

Probably the most serious obstacle to the restoration of a balanced world economy which would permit countries, planned and unplanned, to achieve the maximum efficiency in the use of their productive resources and the highest living standards for their people lies in deep-seated maladjustments in the structure of world production and demand. Some of these structural factors are a direct outgrowth of the late war, while others are perhaps a product of far-reaching socio-political and technological development which are taking place too rapidly to be accommodated by the international economic organism. We will summarize some of these structural factors in the following paragraphs.

Although the overwhelming demand for United States commodities during the immediate postwar period can be explained by the disruption of production outside the Western Hemisphere caused by the war, the capital needs for reconstruction and the backlog of deferred demand built up during the period of wartime shortages, there is considerable evidence that the potential demand for United States commodities in excess of the dollars supplied by United States imports may continue for many years after prewar production levels have been generally restored or even substantially exceeded. Mention has already been made of large-scale industrialization and development programs throughout the world which call for large amounts of specialized capital and materials available in surplus quantities only in the Western Hemisphere. This enlarged demand for investment type commodities may be superimposed upon the normal heavy dependence upon United States and Western Hemisphere exports, unless offset by compensating shifts in demand for the exports of other areas. Such shifts, however, do not depend simply upon competitive price relationships but are in

¹⁵ According to the Department of Commerce publication, *International Transactions of the U. S. During the War*, by 1951 receipts of interest and amortization on all U. S. government postwar loans should amount to about \$450 million, and if dollar loans through the International Bank should rise to \$4 billion, an additional \$200 million in interest and amortization will be required. Together with payments of around \$1 billion on loans and investments existing at the end of the war, total payments will amount to \$1.6 or \$1.7 billion before allowance is made for additional governmental and private loans and investments in the years following 1947 (p. 161). During 1947 and 1948 net private long-term capital flow has been averaging around \$700 million per year, and over \$1 billion in loans were extended by the United States during 1948. It seems quite likely therefore that earnings and amortization payments owed to the United States will be well over \$2 billion by 1951.

considerable measure dependent upon the creation of new sources of supply in areas outside the Western Hemisphere.

What is the result of a shift in world demand in favor of the products of a particular country or area? Let us assume that before the shift occurs all countries have succeeded in achieving a balance in their current international accounts. Immediately after the shift certain countries will find themselves with current account deficits which they must correct by reducing their imports or by adopting measures to expand their exports either to the country or area whose exports have increased, say the United States, or to third countries. Now let us assume for the moment that the demand for imports on the part of the United States is inelastic, and that the elasticity of substitution between United States exports and the exports of the rest of the world is quite low. Under these assumptions, equilibrium must be restored either by an expansion of production in the rest of the world of the commodities which constitute the exports of the United States or by a reduction in the demand for these commodities. But it may not be possible to realize either of these alternatives without substantial adjustments in the structure of world production.

The immediate effect of a shift in world demand in favor of a country like the United States may be a world shortage of dollars and the consequent inability of some countries which normally have deficits within the dollar area to discharge these deficits by converting surpluses with other areas into dollars. Canada and Belgium are examples of countries whose balance of payments difficulties in the postwar are in large measure traceable to this factor. Europe as a whole normally has a deficit with the United States which is settled by dollars earned largely from the Far East. It is quite possible that countries such as India, Indonesia and Malaya will no longer be important sources of net dollars for Europe in the future. The greater political independence of these countries has been accompanied by a desire for rapid industrialization and the inauguration of large-scale development projects. There is considerable evidence that these countries will use their dollar earnings for purchases in the United States rather than transfer them to Europe as was the case before the war.¹⁶

¹⁶ The prospects of Europe's being able to settle its deficit with the United States by means of a surplus with non-European countries other than the United States is discussed in the United Nations' Report entitled "A Survey of the Economic Situation and Prospects of Europe," p. 69 ff. This Report concludes as follows: "The huge disequilibriums manifested in their (non-European countries) trade with the United States in 1947 is bound to diminish sooner or later. But the demand for imports from the United States, while not capable of being fully satisfied, may well continue to press hard against the available supply of dollar exchange and to leave little over for trade settlements with Europe" (p. 70).

Another structural factor which may contribute to a possible chronic disequilibrium in the postwar period is the heavy dependence of Western Europe on the Western Hemisphere for agricultural products.¹⁷ This dependence has increased with the decline in grain imports from Eastern into Western Europe. To the extent that this decline is the result of physical factors, *i.e.*, shortages of farm equipment, etc., it may be temporary. But there is evidence that political factors may also be responsible for the reduction in exportable surpluses of agricultural commodities by the Russian dominated economies.¹⁸

While the rest of the world has become increasingly dependent upon United States agricultural products, the technical superiority of United States industrial production makes it difficult for other industrial countries to compete with our manufactured products both in United States and foreign markets. An abundance of capital and superior production techniques, coupled with a large internal market provides an enormous advantage in most fields of industrial production. While it is true that trade takes place in response to differences in comparative costs rather than absolute costs, a country which is continually introducing new techniques which lower costs and is able to introduce new products which capture the fancy of the rest of the world may be able to maintain a more or less permanent competitive advantage. This does not mean that equilibrium could not be restored, but the required adjustments may not be made rapidly enough to compensate for continual changes in the structure of world demand and supply. Finally, mention should be made of the tendency on the part of the United States to make itself independent of raw material imports from outside the Western Hemisphere. The tin smelter on the Texas seaboard and the synthetic rubber plants are evidences of this development. Economic independence in a growing number of fields has become a matter of governmental policy for reasons of national defense. Offsetting these autarchic tendencies is the fact that the United States is rapidly reducing its reserves of some important natural resources, *e.g.*, petroleum, copper, iron ore, lead and zinc.

Means of Correcting International Disequilibrium

In discussing measures for correcting balance-of-payments disequilibrium, we must distinguish between actions undertaken by countries

¹⁷ By 1951, Europe's bread grain production is expected to reach 96 per cent of the prewar level. But to achieve prewar consumption Europe will, according to estimates by the Food and Agriculture Organization, need to import 15.5 million tons of bread grain, annually, or 6 million tons more than prewar. Of this, some 6 to 8 million tons will have to come from the United States. (See *New York Times*, September 3, 1948).

¹⁸ See for example, "Food from Eastern Europe," *The Economist*, for July 17 and July 24, 1948.

unilaterally and those adjustments which need to be taken by several countries in concert. Certain of the deep-seated maladjustments in the world today are not likely to be resolved by unilateral action alone. This is particularly true of structural maladjustments such as those which characterize the postwar European economies. It is for this reason that the ECA is insisting on a cooperative self-help program for the European Recovery Program countries rather than the granting of United States aid on a country-by-country basis. There are, in general, four types of measures which may be taken for the correction of disequilibrium: (1) monetary, fiscal and other economic measures designed to achieve internal economic stability; (2) exchange rate adjustments; (3) bilateral or multilateral trading arrangements; and (4) adjustments in the structure of production.

1. Measures for Internal Stability

There can be little doubt that the achievement of internal stability is frequently necessary for the correction of balance-of-payments difficulties on the part of planned, "mixed," and unplanned economies alike. The general level of purchasing power must be related to the volume of consumers' goods, both home-produced and imported, which is made available. In the case of completely controlled economies where the volume of consumers' goods, both imported and home-produced, is directly controlled, an excess of disposable income in the hands of consumers would not directly affect the trade balance. Price inflation and the diversion of rationed commodities to black markets might, however, result in a maldistribution of real income which would seriously impair the living standards and productive capacity of a portion of the population. This result would be an evidence of disequilibrium according to the criteria which we have established above. In mixed and uncontrolled economies, where home investment and foreign trade are partly or wholly determined by private decisions, monetary and fiscal measures will need to be largely relied upon for limiting purchasing power, for encouraging exports, and for determining the volume of savings, investment, and the general level of imports. This does not mean that direct controls can always be dispensed with by uncontrolled economies. Sudden shifts in the trade balance require time to correct by fiscal and monetary measures. Moreover, it may not be possible to reduce total monetary demand sufficiently in the short run to achieve an international balance, without causing great economic hardship and unemployment.

It is frequently said that all a country needs to do to restore international equilibrium is to adopt appropriate monetary and fiscal controls. If by this statement it is meant that a country can apply defla-

tionary measures to the point where its international account is balanced without the aid of external trade controls, no one can dispute it. However, unless certain structural changes take place in the economy, the results of drastic deflationary action may very well be disastrous for production and living standards. Deflationary measures may be prevented from shifting resources to the export industries by price rigidities, or a lack of mobility of labor and other factors of production. Moreover, it may prove impossible for a country to undertake a large investment program under conditions of full employment without at least a certain degree of inflation. This is particularly true where trade unions are able to prevent any downward adjustment of wages and continually press for an increase in existing wage scales.

2. *Exchange Rate Adjustments*¹⁹

Although a country may not be able to reduce its monetary income and prices by deflation, it can always reduce them in terms of foreign currencies by devaluation.²⁰ The effect of exchange devaluation on a country's balance of payments will depend upon a number of complex economic and institutional factors including (a) the system of economic controls in the economy; (b) the demand and supply elasticities of the commodities and services entering into the balance of payments of the country in question; (c) the capacity of the country to make the adjustments in the structure of its productive facilities in response to alterations in external and internal cost-price relationships; and (d) the repercussions of devaluation upon the trade and exchange policies of other countries.

a. *The system of economic controls.* In an economy in which all imports are rigidly controlled and exportable surpluses determined by allocation, the chief function of the exchange rate may be that of influencing the demand for exports. (It may not even have this function in a state controlled economy which prices its exports independently of domestic costs.) In economies in which export demand is permitted to compete with domestic demand, the rate will influence the volume of commodities directed to the export market. This fact is frequently overlooked by those who claim that devaluation cannot improve the balance of payments because the country in question is having no

¹⁹ For excellent discussions of the effects of exchange rate adjustments upon the balance of payments see Howard S. Ellis, "The Dollar Shortage in Theory and Fact," *Canadian Jour. Econ. and Pol. Sci.*, Vol. 14, No. 3 (Aug., 1948) pp. 301-11; and Lloyd A. Metzler, "The Theory of International Trade," in *A Survey of Contemporary Economics*, edited by Howard S. Ellis, (Blakiston, 1948), pp. 210-54.

²⁰ This is true only in the short run. Over a longer period, the initial reduction in prices in terms of foreign currencies may be offset by an increase in domestic prices brought about by the devaluation, or by competitive depreciation on the part of other countries.

difficulty in selling its exportable surpluses. The latter argument is intelligible only if it is assumed that a further diversion of resources to the export industries will reduce consumption standards to an intolerable level or prevent the making of capital investments which are necessary for the eventual restoration of equilibrium.

Where imports are rigidly controlled, devaluation will not reduce imports unless import prices rise sufficiently to reduce demand below existing import quotas. Also where only unessential imports are limited by direct controls, devaluation may fail to reduce imports if the demand for essential imports is quite inelastic. The rise in the domestic prices of imports may, however, be significant for the restoration of the balance of payments, since consumer demand may be diverted from the products of home industry, thereby releasing additional resources for the export industries. Whether or not devaluation is inflationary depends upon the wage policy, the fiscal and monetary policies, and the amount of latent inflation already present in the economy. Thus the argument that for a country which controls its imports by direct means and has no difficulty in selling its exports devaluation is merely inflationary and will not improve the trade balance, needs to be re-examined.

b. *Demand and supply elasticities.* Recent statistical estimates of the demand for imports in various countries have revealed remarkably low price elasticities.²¹ It has also been shown that the elasticity of world demand for the total exports of most countries is substantially less than unity.²² Great care must be exercised in drawing conclusions from these statistically derived estimates of import demand elasticities as regards the effects of exchange rate adjustments on the trade balance. Although in the short run at least, the demand for a nation's

²¹ See T. C. Chang, "International Comparison of Demand for Imports," *Rev. Econ. Studies*, Vol. XIII (2), No. 34, pp. 53-67. In this article Dr. Chang estimates the price elasticities of import demand for the United Kingdom and the United States for the interwar period to be -0.28 and -0.97 respectively; see also Randall Hinshaw, "American Prosperity and the British Balance of Payments Problem," *Rev. of Econ. Stat.*, Feb., 1945.

²² See, for example, T. C. Chang, "A Statistical Note on World Demand for Exports," *Rev. of Econ. and Stat.*, Vol. XXX, No. 2 (May, 1948), pp. 106-16. Dr. Chang shows that for the interwar period the sum of the elasticities of home and foreign demand was for most countries close to unity. In a few countries this critical value was above unity but for the United Kingdom, for example, it was -0.68 . In an unpublished paper Dr. Randall Hinshaw points out that since most statistically derived estimates of the elasticity of demand assume a constant level of real income, *i.e.*, the level of income is held constant by means of partial correlation, the effects of the fall in real income in a depreciating country are ignored. The fall in real income resulting from the rise in domestic prices of internationally traded commodities will tend to shift the demand curve for imports to the left. Thus it is quite possible for a country's over-all demand for imports, at a given level of real income, to be inelastic with respect to price and, at the same time, for depreciation to be accompanied by a reduction in the domestic (as well as the foreign currency) value of imports.

imports may be largely determined by the structure of its production and trade and by its national income, changes in exchange rates are capable of bringing about shifts in the demand for imports and in the supply of exports through changes in real income and other changes which may not be accounted for by estimates of demand elasticities derived from cyclical data.

The existence of short-run inelasticities of demand for *total* imports and for the world demand for the *total* exports of individual countries is by no means conclusive evidence that exchange depreciation cannot improve a country's balance of payments. In the first place the demand for a portion of a country's imports and certain of its commodity exports will undoubtedly prove to be elastic. Even if we assume that the total demand for imports is inelastic, total expenditures for imports in terms of *foreign* currencies must decline with devaluation so long as there is any reduction in the physical quantities imported.²³ If the supply of imports is less than perfectly elastic, there will be a further saving of foreign exchange.

Turning to the demand for the exports of a country, even though total world demand is inelastic, the demand for a portion of its exports will undoubtedly prove to be elastic. The net effect of devaluation will depend upon what happens to the prices of its exports in terms of foreign currencies, *i.e.*, the elasticity of supply of the devaluing country's exports. If devaluation enables the country to reduce the foreign currency prices of those commodities for which the demand is elastic while maintaining the foreign currency prices of those commodities for which the foreign demand is inelastic, its balance-of-payments position will be improved.

It is clear that, in considering the effects of devaluation on a country's balance of payments, we must be concerned not only with demand elasticities for imports and exports but also with supply elasticities and pricing policies.²⁴ If the supply of those exports for which the demand is inelastic is also inelastic (or if prices in terms of foreign currencies are maintained by private cartels or government control) and if both the supply and the demand for the remaining exports are elastic, devaluation will increase total foreign-exchange receipts from exports. Moreover, it is not necessary to assume that devaluation will reduce a country's terms of trade for all or even the bulk of its trade.

²³ Total expenditures on imports in terms of foreign currencies will decrease with a fall in the exchange rate as long as the elasticity of total demand for imports is greater than zero.

²⁴ See Joan Robinson, "The Foreign Exchanges," in *Essays in the Theory of Employment*, 2nd ed. (Oxford, 1947), p. 142, n. 1. Mrs. Robinson points out that an improvement in the balance may be achieved by devaluation even where the sum of the elasticities of the demand for exports and the demand for imports is less than unity, provided the supply elasticities for imports and exports are sufficiently small.

c. *The ability to make structural adjustments.* A third important consideration in determining the effects of devaluation concerns the relationship between devaluation and the structure of the economy. A change in internal and external price-cost relationships may be a necessary but not sufficient cause for the restoration of a country's balance of payments. A lack of capital, price and wage rigidities, inadequate incentives for enterprise, or plain inertia may be responsible for the failure of production to respond to changes in cost-price relationship resulting for the alteration of exchange rates. These structural factors are discussed below.

d. *Repercussions of devaluation on other countries.* Exchange rate adjustments as a means of dealing with worldwide equilibrium are limited by the fact that the demand for one country's exports may be elastic only under the assumption that its competitors maintain their exchange rates and export prices. Hence in order not to invite competitive depreciation, which in the case of an inelastic foreign demand would prove to be self-defeating, exchange rate adjustments should not be made on a unilateral and piecemeal basis. The practice of unilateral adjustments may also lead to the use of rates which discriminate as between currencies. Thus, it may be to the advantage of a country to reduce the value of its currency in terms of the currencies of certain countries, e.g., the dollar area, while maintaining its rate *vis-à-vis* other countries. For example, a European country may want to encourage a diversion of its exports from other European countries with inflated currencies to the United States. This situation is undoubtedly responsible for the use of discriminatory rates by Italy and France in 1948.

3. *Discriminatory Arrangements*

When countries are unable to balance their international accounts on a multilateral basis, they may be able to do so on a discriminatory basis. Whether or not a country is able to achieve equilibrium through discrimination depends upon whether it can find an outlet for its exports which will enable it to meet its import requirements. If, for example, the only available source of certain raw materials and capital equipment which a country needs is the United States, bilateral deals with third countries will not secure these materials. Discriminatory arrangements may, however, reduce that country's dollar requirements for other commodities available elsewhere and provide a market for the exports to be traded against them. Where import and export controls are not employed, discrimination may be achieved by the use of discriminatory exchange rates, but similar commodities must be available in the areas from which imports are to be increased, i.e., the elasticity of substitution must be fairly high.

Strictly bilateral arrangements, although better than going without needed imports, have well-known limitations. The larger the area of multilateral trading, the more efficient trade becomes. It may be desirable, therefore, for a group of countries to engage in multilateral trade among themselves while discriminating against other areas.²⁵ However, potential demand on the part of a group of countries joined together in a multilateral payments system for the exports of another currency area may still be greater than foreign exchange receipts from current transactions. Thus, although the new intra-European clearing arrangement²⁶ may help to reduce the dependence of the Economic Recovery Program countries for Western Hemisphere commodities by promoting a freer exchange of European commodities, these countries will still need outside assistance for meeting their deficits with other areas.

Do discriminatory arrangements provide a permanent solution to the problem of worldwide disequilibrium? Although an adequate answer to this question would require another article or perhaps a volume, it is my view that such devices should be considered as short-term expedients only. Bilateral or regional multilateral arrangements may meet an immediate need for the restoration of trade which has been hampered by a shortage of generally acceptable means of payment. Regional multilateral payments arrangements may also help to restore equilibrium by providing a large protected market for new industries, the rapid development of which is necessary in order to reduce the dependence of members of the region on other areas with which the region as a whole may be out of balance. But after the structural adjustments have been made and exchange rates established at appropriate levels, these industries should be able to stand on their own feet in competition with those of other regions. Regional multilateral arrangements should eventually be merged with a worldwide multilateral system, although it might be desirable to retain the regional payments structure so that temporary discrimination against the outside world could be instituted in periods of emergency.

4. *Structural Adjustments*

By structural adjustments we mean adjustments in the structure of production and patterns of consumption which are not brought about by one of the three types of measures discussed in the preceding para-

²⁵ I have discussed this subject in an article entitled "Regional Multilateral Payments Arrangements," *Quart. Jour. Econ.*, Vol. LXII, No. 4 (Aug., 1948), pp. 500-18.; See also Robert W. Bean, "European Multilateral Clearing," *Jour. Pol. Econ.*, Vol. LVI, No. 5 (Oct., 1948), pp. 403-15.

²⁶ For a discussion of the intra-European payments plan see *Second Report to Congress of the Economic Cooperation Administration*, 1949, pp. 11-15.

graphs. In some cases, the adjustments required for the restoration of equilibrium could be brought about by appropriate internal monetary and fiscal means, but for one reason or another governments may choose not to employ them. In other cases, restoration of equilibrium without severe disruption of the economy may not be possible except by direct or indirect action on the part of the economic authorities to alter the structure of the economy. In other words, internal financial measures, exchange rate adjustments or special trade and payments arrangements may not be sufficient or may not act quickly enough to restore an international balance.

In controlled economies, restoration of equilibrium may require the establishment of new industries, the expansion of old ones or an increase in agriculture output for home consumption or export. It may also mean the contraction or elimination of certain industries. On the consumption side, restoration of equilibrium may require the elimination of certain luxury items such as private automobiles, or a cheapening of housing accommodations to be made available to the public.

In relatively free economies, changes in the structure of production may be achieved by special encouragement to certain industries in the form of low interest loans, free technical assistance or tax concessions. Other industries may be discouraged by discriminatory taxation and other measures which do not require a direct control of industries by the government. Although the government may be able to discourage certain industries by indirect means, it may be impossible to expand other industries except by direct encouragement or promotion. There may be cases where the necessary risk capital is not forthcoming without direct government intervention or where the necessary capital can only be obtained from abroad. The fact that in recent years international loans have been made largely on an intergovernmental basis, has tended to increase governmental responsibility and control in borrowing countries.

The question arises as to why, in the case of relatively free economies, necessary structural changes for the restoration of equilibrium cannot be brought about by internal monetary and fiscal measures and appropriate changes in the exchange rate. The answer is that in some cases equilibrium could be restored without governmental action to affect structural changes but only at the cost of unemployment or drastically reduced living standards. The economic organism of a modern industrial nation simply does not have the flexibility and sensitivity to changes in the pricing mechanism attributed to it by classical international trade theory. The expansion of certain industries and the contraction in others which may be dictated by rapid changes in the balance-of-payments position of a country may not take place with

sufficient speed through the operation of competitive forces in free economies. It requires considerable time to attract private risk capital to new industries especially when adequate incentives for venture capital are lacking. Price and wage rigidities interfere with the transfer of resources from established industries. Moreover, new export industries and industries supplying home needs formerly met by imports often require large amounts of foreign equipment so that the initial result of the structural adjustment may be an increased demand for imports. It may be necessary, therefore, for the government to obtain the necessary financing from abroad. If an attempt were made to force the required structural adjustments solely by means of deflationary financial measures, the result might be immediate unemployment, the disruption of industry and perhaps a permanent lowering of living standards.

The postwar situation in Europe is an example of the need for far-reaching structural adjustments for the restoration of balance-of-payments equilibrium which could not be brought about by internal financial measures alone except at the cost of reducing the living standards of a large part of the population to starvation levels. According to the report of the Economic Commission for Europe,²⁷ if Europe is to achieve equilibrium in her balance of payments and to res... standards of living it will be necessary to close a balance-of-payments gap of \$3.3 billion in terms of 1947 prices. This gap remains in spite of the fact that by the end of 1948 prewar industrial production in most Western European countries had already been exceeded. This deterioration in Europe's balance of payments was in considerable measure a result of the reduction in net investment income and changes in other invisible items. In the case of the United Kingdom, whose total production and volume of exports exceeds prewar levels by a substantial margin, practically all of her balance-of-payments difficulties can be traced to the deterioration of the invisible account.

The expansion in European heavy industry and the other changes in the pattern of production which are necessary for Europe to achieve equilibrium by the end of the four-year recovery period not only require large amounts of foreign capital but also a considerable degree of national and international planning and cooperation. It is unlikely that the steps necessary for the restoration of equilibrium at high levels of production can be brought about solely by exchange-rate adjustments and fiscal and monetary measures within the space of a few years. But, to be successful, structural adjustments must be accompanied by appropriate financial measures and exchange-rate adjustments. They may also require trade and payments arrangements with

²⁷ "A Survey of the Economic Situation and Prospects of Europe," pp. 76-77.

other countries. For example, in order for the Economic Recovery Program countries to balance their accounts with the Western Hemisphere, they may need to plan their industries in a complementary fashion and promote intra-European trade by a regional multilateral payments arrangement. Such arrangements will for a time at least involve discrimination against the United States. Eventually, however, after the necessary structural adjustments have taken place, these countries may be able to return to multilateral trade on a worldwide basis.

The United States and World Disequilibrium

Before concluding, it may be appropriate to inquire as to the need for structural adjustments on the part of countries with chronic surpluses, *e.g.*, the United States. If the elasticity of demand for United States imports proves in fact to be less than unity, changes in the relative value of the dollar, and reductions in United States tariffs, may not bring about a substantial increase in United States imports. It might be argued that the entire burden of structural adjustments to achieve equilibrium rests with the rest of the world which is experiencing a dollar shortage. On the other hand, many Europeans and some Americans maintain that if we want to have a world in which nondiscriminatory trade and convertible currencies are possible, the problem of the dollar shortage is in part, at least, an American problem.²⁸ Any attempt to determine whether or not a dollar shortage will continue for an indefinite period in the future would involve the making of long-range estimates of an exceedingly hazardous character. But without predicting our long-run balance-of-payments position we might suggest possible ways in which a reduction in our actual or potential balance-of-payments surplus might be achieved.

If economic and political conditions in the world generally were favorable, the most desirable way of dealing with the dollar problem would be to export large amounts of capital each year, preferably on private account. Special encouragement could be given to such investment by government guarantee of the transferability of earnings into dollars or by other forms of insurance and guarantees. Although foreign investment would increase United States receipts on invisible account, several decades of large outpourings of American capital and technical knowledge would most certainly alter our relative position as a supplier of the world's industrial commodities. Moreover, with the exhaustion of our natural resources, our imports of raw materials will tend to increase.

In the absence of an environment favorable to large-scale United

²⁸ See "Dollars—An American Problem" and "Dollar Shortage Forever," *The Economist*, July 3, 1948 and June 26, 1948 respectively.

States foreign investment, the government might seek to reduce our export surplus by reducing the amount of agricultural products available for export through our agricultural support price and acreage allotment program. We might also place export controls on strategic raw materials or commodities produced from strategic raw materials as a conservation measure. The difficulty with these measures to curtail exports, however, is that we would be doing the world a distinct disservice if alternative sources of supply of these commodities did not exist. Preventing other countries from satisfying their needs for United States commodities is not a realistic solution to the dollar problem.

Measures designed to increase United States imports would be preferable from the standpoint of the world economy. But here we run into the difficulty that the bulk of United States imports takes the form of foodstuffs and crude materials the demand for which is quite inelastic. A large-scale stockpiling program and a conservation program designed to use imported raw materials while conserving our own reserves of mineral wealth would be helpful but probably insufficient as a solution to the problem. The import demand for a large number of manufactured items is undoubtedly quite elastic and in some cases the total market is very large. Foreign sellers might undertake to capture a large segment of the American market for textiles, china, cutlery, and other commodities in the production of which the United States has little or no comparative advantage. But the barriers to entry into the American market on a large scale are not simply matters of prices and tariffs. The development of national markets requires years of nation-wide advertising and the establishment of large marketing organizations. It is difficult for foreign countries producing on a relatively small scale to meet the requirements for nation-wide marketing in this country. Government aid in promoting the sale of foreign products on a large scale, would very likely meet with enormous opposition on the part of the American business community. In fact, substantial inroads by foreign competitors which would require a serious retrenchment on the part of any important American industry is almost certain to be met with a demand for the restriction of imports.

We may conclude that in the absence of large American foreign investment or of a commercial policy which will permit large imports of manufactured goods in competition with American producers, the major part of the burden of correcting world disequilibrium must be borne by the rest of the world. General discrimination against dollar imports is probably inevitable until industrial capacity in the rest of the world is considerably expanded and adequate alternative sources of agricultural products for which the rest of the world is now dependent on the United States are developed.

PRICES, MONEY AND THE DISTRIBUTION OF GOODS IN POSTWAR GERMANY

By HORST MENDERSHAUSEN*

In the summer of 1948, the economy of Western Germany underwent a radical change. The change was brought about by a variety of factors. The monetary reform of the 20th of June and the subsequent abandonment of a large part of price and rationing controls re-established money as an effective instrument of purchasing power, and markets as legal and effective devices of allocation. An abnormally good harvest and increased external aid led to a significant rise of food rations¹ and improved supplies of industrial raw materials. But, above all, there came into existence an economy with legal and functioning markets.²

The effect of the monetary and economic measures was impressive. If the Rentenmark of 1923 performed a miracle, the Deutsche Mark of 1948 may be said to have wrought a revolution. Beyond the immediate change in the availability of goods, a significant change in economic relations took place. It was as if money and markets had been invented afresh as reliable media of the division of labor.

During the preceding years there had occurred a genuine regression of economic civilization. Foreign trade had practically ceased and come to be replaced largely by the intake of foreign relief and the outgo of foreign levies. Internal trade had become a most ineffectual system of redistribution by government agencies, overlaid with forms of primeval long-distance trade and local barter, both illegal. Far from

* The author is an economist of the Federal Reserve Bank of New York. During 1947-48, he served with the U. S. Military Government of Germany in the capacity of Assistant Chief of Price Control. He wishes to express his gratitude to Mr. Leander Lovell of the Bipartite Control Office, Frankfurt, Germany, Dr. Eduard Wolf of the Bank Deutscher Laender, Frankfurt, and Miss Erika Teutsch of the Federal Reserve Bank of New York for help and valuable advice in the preparation of this article.

¹ In the bizonal area, the food ration of the normal adult consumer was raised from 1,575 calories per day in June to 1,980 calories in July. In August, it dropped to 1,830 calories; but it remained above 1,800 calories in the later months of 1948. (OMGUS, *Monthly Report of the Military Governor*, Statistical Annex, XVII, August, 1948, p. 19, and later issues.)

² The term "economy with markets" is used here to denote the presence of markets among the legal institutions of the economy. It does not carry any connotation regarding the scope and place of the markets in the economy. "Market economy" (i.e., an economy dominated by markets) and "economy without markets" may be considered speculative extremes. They are theoretical limits to the many combinations of market and non-market patterns of economic life that occupy the full range of economic history.

having been a "market economy" during the 1930's and the war years, the German economy in terms of its legal institutions came close to being an "economy without markets." This regression was as extraordinary to the economic observer as it was painful and bewildering to the people involved in it.

The severe effects of Germany's repressed or stagnant inflation on incentives and production had been widely realized. The index of industrial production in the bizonal area did not reach 50 per cent of 1936 before March, 1948³—it was at 51 per cent in the month of currency reform, June, 1948—while the published indexes of other countries, except Japan, reached levels of at least 66 per cent of prewar, generally better than 75 per cent, in 1947.⁴ But it is far from certain that an earlier imposition of currency reform and an earlier decontrol of prices and commodity flows alone would have caused an earlier and better recovery. In view of the protracted disorganization of government, social life, and foreign supplies, it may be said that economic recovery was hardly within reach before 1948, and that a policy of rigidly suppressed inflation was not more unsatisfactory than any other policy available during that time. Nor would it be proper to limit one's view to the effects of stagnant inflation on production. The listlessness of the economy was accompanied by a dulling of organized social conflict. Market, government, and social conflict had simultaneously and temporarily fallen into disorganization. When decisions were taken to reorganize the economy and the government, the stage was set for progress and for more acute social conflicts.

The economic experience of Germany in the three years since V-E Day contains interesting lessons in the reaction of a modern Western nation to severe economic disorganization. Features of general significance are of course inextricably interwoven with the peculiar facts of post-Hitler Germany. It would be very difficult to separate these components of the situation.

Tenacity of Price Control

Price control and rationing survived the collapse of the Hitler Reich. In November, 1945, the four-power Allied Control Authority resolved to continue the German price laws and regulations and the local and regional agencies for price control, thus reaffirming earlier actions taken by the various zone commanders. On February 7, 1946, the Coordinating Committee of ACA agreed on a statement of price principles applicable in the four zones of occupied Germany and Berlin.

³ Two years earlier in June, 1946, it was 34 per cent of 1936. Revised index published in OMGUS, *Monthly Report of the Military Governor*, August, 1948, p. 98.

⁴ *Monthly Bulletin of Statistics*, Statistical Office of the United Nations, August, 1948.

This was to remain the basic price policy document for more than two years.

This statement provided for the rigid maintenance of the price stop: "As a rule, on the majority of commodities, prices are to be maintained, for the time being, at the level before occupation. Price increases over the level prevailing on the 9th of May 1945 shall only be permitted as an exception. . . ." The need for such exceptions was to be proven by actual losses, after exhaustion of all methods to eliminate cost increases. The possibilities of price relief were further limited by the stipulation that only "average direct cost of production of the aggregate of products of the firm" should be covered, that not more than "the smallest margin for overhead and profits" should be allowed, and by the consideration that "the cumulative effect of all price-increases permitted . . . on the cost of living shall not be so great as to necessitate any adjustment in the present general level of wages."

While these instructions were to guide the German price formation offices in the various zones, the ACA reserved to itself the right to control the prices of the most important basic commodities of industry and agriculture. ACA exercised this function in a most cumbersome and rigid manner.

Within the various occupation zones, the implementation of the price stop policy showed much similarity in form but variation in substance. The Russians used the price squeeze as a means of making private business unprofitable. They exempted from German price law the Soviet corporations that they set up in their zone. In the American zone, price policy was dominated by a "hold-the-line" spirit in the absence of any strong business pressure. The French followed an equally rigid approach while the British vacillated between a Treasury approach of curing inflationary pressure by price increases and a political preference for price-wage stability, the result being a somewhat laxer price stop.

With the formation of bipartite Anglo-American economic policy bodies in late 1946, the principle of the price stop was reaffirmed. In a statement on price, wage, and subsidy policy of November 2, 1946, the Bipartite Board declared that "full expression in prices should not be given to the many temporary and abnormal elements in the present cost structure, especially in the basic commodities, and a limited program of temporary subsidies and stringent control generally is recommended for this purpose." The German price authorities, at the bottom of the hierarchy, reflected the combined influence of Allied policy and German popular opinion. Applications for price increases usually faced long delay and much red tape.

The "price stop with exceptions" was maintained in the face of a

tremendous imbalance of spendable money and available goods. In 1947, currency in circulation in the four zones of Germany and Berlin was estimated at about 10 times the amount that circulated in the Reich in 1936—when Hitler imposed the price stop—total currency and deposits at five times the amount of 1936, while the real national income was put at roughly one-half of that of the Reich of 1936.

Legal prices did increase. The cost-of-living index for the U.S. zone gives a picture of the development of certain legal consumer prices. In October, 1945 this index was only 12 per cent above prewar, but in May, 1948 it had risen to 31 per cent above prewar. While the

TABLE I.—COST OF LIVING INDEX FOR BAVARIA, HESSE,
AND WUERTEMBERG-BADEN^a
(1938=100)

Date	Total Index	Food	Stimulants	Rent	Heat and Light	Apparel Total	New	Miscellaneous
October 1945	112	106	126	100	116	142	151	117
October 1946	125	114	194	100	111	144	161	145
October 1947	126	122	193	100	121	159	174	138
May 1948	131	132	193	100	123	165	183	140

^a Computed for worker's family of five, bombed out or evacuated. OMGUS, *Report of the Military Governor*, Statistical Annex XVII, July 1948, p. 49.

weighting and the economic significance of the index are subject to strong reservations; it correctly indicates a relatively small rise during the pre-reform period, very small in view of the exceptional conditions of the country.

The development of the cost-of-living index corresponds roughly to that of average hourly earnings in the industries of the U.S. zone, which were subject to an extension of the pre-occupation wage stop. In March, 1948 average hourly earnings were 131 per cent of 1938. Owing to the considerable curtailment of work hours, however, average weekly gross earnings were only 111 per cent of 1938.⁵

The rise of legal or quasi-legal commodity prices was generally greater than that of the cost-of-living index. In 1947, experts of the British and American occupation authorities prepared estimates of wholesale prices approved or "tolerated" by the German price offices in the bizonal area. The study indicated approximate price developments as shown in Table II.

A new index of basic commodity prices in the bizonal area, established in 1948, showed the prices of basic foodstuffs in mid-June 1948

⁵ OMGUS, *Report of the Military Governor*, Statistical Annex XVII, July, 1948, p. 10.

as 124 per cent of 1938, those of basic industrial materials, as 155 per cent of 1938.^e

The group of manufactured consumers' goods showed the greatest rise, a fact that is also borne out by the lead of new wearing apparel and household furnishings in the cost-of-living index. While manufactured consumers' goods, roughly speaking, doubled in price, agricultural and industrial raw material prices increased by 50 per cent or less.

The resulting change in the price structure, that is, the opening of the price scissors between primary and final producers, was largely due to price control. In the absence of price control, the acute postwar shortage of primary agricultural and industrial goods would probably

TABLE II.—ESTIMATED WHOLESALE PRICE INDEXES IN THE BIZONAL AREA IN MAY 1947, AND COMPARABLE U. S. INDEXES (1938=100)

Products	Bizonal Area	United States ^a
Agricultural products	120 to 125	265
Industrial raw materials and semi-finished products	135 to 145	230
Finished manufactures	190 to 220	177
Producers goods	150 to 180	—
Consumers goods	215 to 240	—

^a Based on the Bureau of Labor Statistics index of wholesale prices for farm products, raw materials and manufactured products.

have put their prices in the lead. That, at least, was the case in the United States. The disruption of the national market in Germany, the lack of imported raw materials, the destruction of the Ruhr industries and the inaccessibility of Silesian coal and Eastern and Central Germany foodstuffs, all would probably have accentuated this tendency.

Price control in Germany produced the inverse tendency, chiefly for two reasons. Price increases of the basic commodities could only be made by the Allied Control Authority itself. That meant in the first place a very laborious process of fact finding and transmitting and finally a sort of four-power conference on the case in hand. The quadripartite negotiations about British proposals to raise the prices of coal and steel showed all the features of futility that have disgraced four-power conferences in recent years. Added to the prevailing price-stop preference among the representatives of at least three of the four powers, this condition prevented anything like a sufficient price adjustment of most basic commodities. It blocked any action on coal and steel.

^e Statistical Office of the Bizonal Area: *Statistische Monatszahlen*, November, 1948, 38. See also Table V below.

into the hands of Allied personnel as their private property (after private importation of cigarettes had been banned); probably 90 per cent of the turnover of existing luxury goods (jewelry, cameras, china, rugs, furniture).¹⁰

Black market operations consisted primarily of transactions in finished products. They usually involved traders and final consumers, to a lesser extent original producers. The products came partly out of German production (typically bread, potatoes, fats, meat, soap, textiles), partly from Allied sources (typically gasoline, tobacco goods, chocolate, certain foods), partly out of personal and household possessions of the German population. They were handled by black market traders, recruited from the ranks of the displaced persons and Germany's unstable and dislocated population.

The contacts between this class and the rest of the population were manifold. People who knew where to buy or sell "black" goods could be found in nearly every house, especially in the larger cities. Every family was involved, at more or less frequent intervals, in the black market sale of some possessions and the purchase of some "black" foods, stimulants, clothing, etc. Characteristically, the excess of expenditures over income in a sample of 81 Bavarian workers' and white collar households (September, 1947), amounting to about one-third of income, was almost entirely balanced by money receipts from the sale of personal property.

Likewise, all business enterprises would at one time or another make a black market purchase or sale to obtain critical materials or parts and to cover costs and tax bills that could not be met out of legal income. But the great majority of households and businesses considered their involvement in black market transactions as shameful, and the agents of the black market as immoral and asocial individuals.

The prices of the black market varied from place to place and fluctuated in time. Owing to bad transportation and communications and to its illegality it was of course an imperfect market, in which some transactions and some places, especially Berlin, would show much higher prices than others. Information collected by the price supervision offices and the police indicated that in May, 1947 black market prices in the main cities of the U.S. zone were about 100 times or more the legal prices for sugar, butter, coffee, saccharine, flour, ladies' stockings, soap, flints; about 75 times the legal prices of oleomargarine, eggs, liquor; about 50 times the legal prices of potatoes,

¹⁰ OMGUS, *Economic Policies, Programs and Requirements in Occupied Germany; Answers to questions submitted by members of the Select Committee on Foreign Aid, House of Representatives, September, 1947*, p. 149 ff.

beef, Leica cameras; about 25 times the legal prices of coal, suits and dresses, electric bulbs, automobile tires and gasoline; and about 10 times the legal prices of typewriters, and electric wire. The most important black market foodstuffs sold at prices in the range of 50 to 150 times the legal level. As a rule, industrial goods had a smaller black market agio, with the notable exception of ladies' stockings, soap and flints. The average of black market prices may be estimated at 50 to 75 times the legal prices.

At that price level, even a small turnover of goods would absorb a large volume of purchasing power. Assuming that only 8 per cent of the total volume of transactions were carried out at that level, while the remaining 92 per cent were carried out at legal prices, the volume of money engaged in the black market transactions would be about five times as great as that engaged in transactions at legal prices. Allowance for the use of money substitutes might lower this figure somewhat; but the order of magnitude would probably remain similar.

In this fashion, the black market absorbed a considerable part of the excess supply of money in postwar Germany. The remainder of the excess was neutralized by the considerable decline in the velocity of money circulation, compared with prewar, that resulted from a variety of factors: the decline of financial transactions, the regression to cash payment and official sterilization policies. Moreover, the excess did not increase; it possibly even declined with time. The slow advance of production and of legal prices probably exceeded any net infusion of money that may have come from the Soviet zone. The fiscal policies followed in the bizonal area whittled away some of the excess purchasing power after 1945. These factors explain in large part the stability or slightly downward tendency in the black market price level during the three years' period.

The black market was limited to commodity and property transactions. Black market wages commensurate with black market prices were practically unknown. Employees working in establishments with obvious black market incomes as a rule preferred compensation in extra goods to extra money, and the same rule usually applied to irregular employment and odd jobs.

Bilateral Exchange

While Germany's postwar inflation remained stagnant in a setting of rigid price control and a stable black market, the distribution of goods and services underwent an important institutional change. Bilateral exchange assumed major proportions. In a large sector of the economy, goods and services could not be obtained for money alone, nor even for money plus ration coupons or allocation certificates. They could

only be obtained on the condition of delivery of other goods and services.

To most people, money did not lose value by way of depreciation but it lost significance through an increasing limitation of its usefulness. Food rations could be bought at legal prices, but it was the ration card, not the money, that controlled the access to the scanty and irregular distribution of foodstuffs. The amount of money that could actually be spent on the food rations was not hard to find. Pegged wages and an occasional black market sale would put that amount into everybody's hands, even without the benefit of former savings. This held true *a fortiori* for other consumer goods. The quantities of clothing and metal goods available after allotments to refugees, and in the latter part of the period, to miners and other workers' groups, were so small that the opportunities to obtain them for money and permits were negligible. The black market, finally, was narrow and an unreliable source of supply for the commodities of daily living, entirely insufficient to obtain the ingredients of production. A mark might be worth half a cent or half a dollar in relative purchasing power; but in either case there was not much of a point in relying on that purchasing power and in laboring to get hold of the mark.

For reliable supplies, businesses, farmers and workers increasingly turned to bilateral exchange via "compensation trade," "distributions to workers," and regular barter. These practices were illegal under the sweeping prohibitions of Nazi wartime legislation, in particular the War Economy Ordinance, which were kept in force under the occupation. But the German and occupation authorities found these breaches of economic controls almost irrepressible. In September, 1947 U.S. Military Government experts believed that from one-third to one-half of all business transactions in the bizonal area proceeded in the form of "compensation trade."¹¹ "At least 50 per cent," was the guess of German government officials in the Ruhr area. This was an all-pervading feature of the economy.

Apart from the limited usefulness of money, two factors helped to establish bilateralism on a broad scale. First, the occupation authorities led the way. In the early days of occupation, local military commanders obtained essential goods for their district by loading up some trucks with the district's products and taking them to the outside suppliers for straight barter. Throughout the period, the occupation authorities offered a ration-free noon-day meal at the legal price to all of their German employees, from top-level expert to street cleaner. This arrangement was the major and indispensable material attraction of

¹¹ OMGUS, *Economic Policies, Programs and Requirements in Occupied Germany*.

service in occupation establishments. Likewise, the occupation authorities introduced "incentives in kind" to boost the economic activities judged most important: coal mining and export production. They thereby acknowledged that in order to buy something you have to sell something to the seller.

Second, in the eyes of most people bilateral exchange was far less immoral than black-marketing. It was usually considered an unfortunate necessity. "How can I keep my workers without putting tires on their bicycles? They will take them, anyway," said the rubber manufacturer. "Everybody knows that to get cement you must offer coal," said the city fathers of Stuttgart, and they bought liquor brewed in the surrounding countryside, shipped it to the French zone in exchange for cigarettes, shipped the cigarettes to a Ruhr mine and swapped them for coal, brought the coal back to a cement plant in Wuerttemberg, and thus got the cement for reconstruction work. The monitored correspondence between two businessmen showed the negotiations preceding certain compensation deals. Their illegality was understood. But when one of the parties demanded an unusually large counter-shipment in return for his products, the second party indignantly charged him with "illegal black-marketing."

Money did enter into "compensation" trade, both as an accounting standard and as a means of payment. Typically, the equivalent quantities of goods in these reciprocal transactions were computed with the help of legal or near-legal prices, the common formula being "peace-time value for peace-time value." From the point of view of price control, many of these transactions were inoffensive. But there also were characteristic changes in equivalencies that reflected the incorrectness of the frozen price structure. For instance, the going rate for the widespread bilateral exchange of cement for coal was one ton of coal for one ton of cement. At legal prices, one ton of coal was the equivalent of one-half ton of cement. The balance due the cement producer at legal prices would usually be settled in money. That was for bookkeeping purposes chiefly.

"Compensation trade" was the typical form of bilateral exchange among industrial producers and wholesale traders. A considerable part of their effort was spent on locating partners to a deal and in arranging for the expeditions needed to carry goods from one place to another safely. The system was costly and cumbersome, and most businessmen disliked it intensely. But it provided a market mechanism, even to the point of developing some clandestine "bourses," and it helped avoid a complete breakdown of industrial activity under the weight of scarcities and trade prohibitions. It is noteworthy that in the more elaborately planned and policed Soviet zone, compensation trade was

not only rampant but even formalized occasionally. A big chemical plant, appropriated by a Soviet corporation, was known to have a detailed list showing the exchange equivalencies of a hundredweight of fertilizer in terms of coal, flour, potatoes and other goods, for the benefit of its customers.

Bilateralism in the employer-employee relationship took the form of factory meals more substantial than the turned-in ration coupons of the workers warranted, the sale of consumers' goods to the workers at legal prices but without permits, and the granting of facilities and materials to "work shops" in the plant, where the workers could make some articles for their own use on company time or after hours. Naturally favored were the employers producing goods of general usefulness to consumers. But where the production was not suitable, or could not be made so by the addition of special lines, goods for distribution to workers were obtained from other producers through "compensation trade," or the workers were given factory products that could be taken out to the peasants and bartered for food. In this way, even a steel mill could satisfy its workers by giving them Thomas fertilizer and steel bands for the wheels of peasant carts.

The pre-commercial system of *Deputate* (payment in kind) that had lived on in German coal mining and on large agricultural estates thus spread throughout the entire industrial economy, chiefly in the form of the provision of facilities to buy at legal prices what was otherwise unobtainable. The 20th century institution of the works' councils, representatives elected by all the workers of a plant, was frequently made the vehicle of the *Deputat* system. The works councils allotted the goods to workers according to some standard of need and they frequently also participated in the procurement of food for the works kitchens.

Finally, there was the direct barter between city dwellers and peasants. The city people hiked to the villages with an assortment of hardware, textiles, tobacco and personal possessions and bartered them for food. In this trading, money played almost no role at all. City people also worked as farm helpers for the food and whatever living quarters were available in the crowded villages.

The bilateral exchange economy was the chief means of survival for businesses and individuals in Germany before currency reform. It developed in the domestic economy to cope with the same basic problem that bilateralism seeks to meet on an international plane, *i.e.*, unreliability of a complex division of labor. Its German variety represents the extreme stage of a development that could be observed in milder forms in the war and postwar economies of Great Britain and the United States. Where neither trading for money nor redistribution

of goods by political authority, alone or in combination, can ensure a reliable division of labor, bilateral exchange seems to be the safest line of economic retreat.

Monetary Reform and Companion Measures

The monetary reform for the Western Occupation zones, introducing the Deutsche Mark¹² as the new legal currency, was ordered by the three military governments on June 20, 1948. Currency holdings and deposits of D-Marks came into existence by (1) the allotment of certain amounts to consumers, businesses, public authorities and military governments, and (2) the conversion of the old marks.¹³ Credit creation soon came to add a third major source of monetary means, and the influx of Western Berlin mark, a fourth and minor source. (See Table III).

The Western zones went into the reform with a money supply estimated at RM 135 billion.¹⁴ On the 7th of September, when the new central bank for the three zones, the Bank Deutscher Laender, gave its first accounting, the economy was equipped with about DM 12 billion on currency and free bank deposits, excluding inter-bank deposits, of which little more than DM 9 billion were created by the reform measures, about DM 3 billion by the bank system through credit creation.¹⁵ Not counting the latter, the money supply was reduced by more than 93 per cent as a result of the reform. These monetary means were to effect the circulation of goods and services at existing or newly forming prices.

It is not intended to give the legal details and a play-by-play account of the currency reform in this article. Regarding its broad economic effects, however, it should be pointed out that the original reduction of money was in effect somewhat more severe than the quoted figures indicate. About DM 1.1 million of the DM 12.3 billion accounted for were nominal accounts and not at the disposal of the economy in September, 1948. Excluding furthermore savings accounts of DM .3 billion, the effective monetary means of the economy were DM 10.9

¹² The basic laws (for the U. S. zone, law No. 61, 62, etc.) have been released by the U. S. Department of the Army, Public Information Division.

¹³ Reichsmark, occupation mark, etc. This division simplifies the more complicated measures that were taken. Technically, the allotments were made in the form of 1 to 1 conversions of old mark into new mark. In later conversions of additional old marks, the customers were debited with nine times the originally allotted amounts in old mark.

¹⁴ OMGUS, *The European Recovery Program*, Joint Report of the U.S. and U.K. Military Governors, September 31, 1948. Little more than RM 100 billion were converted. The remainder was not presented for conversion. The currency reform law provided for the investigation of large old mark accounts.

¹⁵ *Mitteilungen der Bank Deutscher Laender*, No. 13, Frankfurt, October 22, 1948, and direct communications from the same source.

billion, or about 22 per cent of the national income. By comparison, in 1938, the monetary means of the German economy were about 34 per cent of the national income.¹⁸ The shortage of monetary means, however, was offset to some unknown extent by an upward spurt of the velocity of money circulation, reflecting the great propensity to buy in the unfolding markets; and it was rapidly alleviated by credit creation on the part of the banks.

Credit creation on the basis of commercial paper or personal confidence proceeded at a fairly rapid pace till November, 1948, when

TABLE III.—VOLUME OF MONEY IN WESTERN GERMANY, DECEMBER 31, 1948*

		<i>DM billion</i>
<i>a. By Type</i>		
D-Mark notes in circulation		6.3
Deposits (excluding inter-bank deposits) with the central banks of the Trizone and the various <i>Laender</i> :		11.4
Occupation authorities	.45	
German public authorities	.89	
Others	.22	
Total	1.6	
With other banks	9.8	
Total		17.7
<i>b. By Origin</i>		
Allotments:		6.8
to Occupation authorities	.77	
to German public authorities	2.38	
to businesses, including state railroad and postal system	.76	
to consumers	2.90	
Conversion of Reichsmark		about 5.9
Credit creation		about 4.8
Influx of Berlin B-mark		about .2
Total		17.7

* Source: Bank Deutscher Laender.

measures were taken to check it. The composition of the volume of money by type and by origin at the end of the year 1948 is shown in Table III.

Monetary reform was accompanied by several measures in the field of taxation (the "little tax reform"). The occupation authorities reduced the very high income and property taxes in effect since 1946 by lowering rates and raising exemptions. The corporate income tax was

¹⁸ Money: RM 29.1 billion, national income: RM 85 billion. If savings deposits are included in both years, monetary means amounted to 66 per cent of national income in 1938, 22.5 per cent in September, 1948.

made less progressive. On the other hand, a new high excise tax was imposed on coffee, and local taxes were raised considerably. Contrary to previous plans, however, no action was taken to settle the vast and thorny issue of the "equalization of war and postwar burdens." The occupation powers assigned this task to the German authorities, and the latter have not succeeded so far in finding a solution acceptable to Allied policy makers.

An important companion measure was the adoption of a uniform link between the D-Mark and the dollar, the \$.30 conversion rate. During the year following currency reform this rate gradually replaced the many different "conversion factors" that previously had linked German to foreign prices in export and import transactions.

Fiscal and Economic Policy Pattern since Reform

The development of the Western German economy after monetary reform may be divided into several phases: (1) a brief release phase from the perverted institutions of the war and defeat economy, during which dishoarding dominated the scene; (2) an inflationary recovery phase during which the economy under slack controls advanced toward better performance and produced inflationary tensions. At the time of writing (March, 1949), the German economy seems to have entered a slight recession that may lead to the end of the decontrol period.

A discussion of the price and market developments during the first six months after currency reform presupposes some comment on the shape of fiscal and economic policy pursued by the Allied occupation authorities and the tentative German authorities, whose complicated interaction governed Western Germany during that time.

The German credit system was reactivated by the military governments in a rather quaint form. The central bank system was made irresponsible to political authority, in particular to the central authority that is slowly emerging from the bizonal institutions. In the name of "nonpolitical" finance, the Bank Deutscher Laender was put under the control of provincial political, banking and business interests, and credit policy was placed outside the reach of government. Reflecting an extreme distrust of the economic sensibility of public authority and an inclination to see in government the only conceivable source of monetary maladjustment, the occupation authorities outlawed "fiscal sin": "Expenditures of public authorities must be covered by current income. The procurement of funds by means of credit shall be lawful only in anticipation of future revenues. Military Government reserves to itself the right to intervene in budgetary matters if the maintenance of this principle is imperilled." (Article 28 of the Military Governments'

Conversion Law, promulgated as Law No. 63 in the U.S. Zone in June 1948.)

Put against the background of Western economic experience during the last 20 years, this rigid approach to fiscal policy appears like the ghost that Keynes laid. Its return to Germany has not yet had a chance to produce major social-economic disturbance; but it has not failed to leave characteristic marks on the recovery process of the country since currency reform.

Banking control of the credit volume proved by no means a safeguard against inflation and misdirection of resources. During the first six months of the new system, the commercial banks produced a sufficient amount of short-term credit to sustain a considerable upward movement of commodity prices (see below). Private businesses made extensive use of short-term credits for productive and unproductive purposes, frequently tying up the funds for long periods of time; and whatever power the banks had to influence the use of credit was offset by the wave of cash income that accompanied the liquidation of hoards. In November, 1948, the central bank felt compelled to restrict credit. It chose the means of raising reserve requirements by 50 per cent and freezing the aggregate amount of credit outstanding. The rediscount rate was left at 5 per cent.

The subsequent deflationary pressure was exercised with a similar lack of economic discrimination. What discrimination can be discovered was in favor of those who were indebted to the banks and against new customers or projects. The experience indicated the familiar difficulties of shaping and stabilizing the economic process by relying chiefly on banking measures of one kind or another. These difficulties were increased by the lack of balance between the regional and industrial components of the German economy on the one hand, and on the other hand by the extensive use of cash in business transactions that were meant to escape taxation under existing or expected laws (equalization of war burdens).

Long-term development credit was neglected. The commercial banks concentrated on short-term business. Thus, the weight of credit scarcity fell heavily on new enterprise, in particular such enterprise as could not be financed out of the sale of hoarded goods. It also fell on housing construction, where scarce and expensive credit delayed the removal of one of the narrowest bottlenecks in the German economy, the immobility of labor caused by the lack of housing. A public Reconstruction Loan Corporation was established in October, 1948 to finance long-term projects; but the search for sufficient funds proved very difficult, partly for expected reasons (high spending in all quarters), partly for unexpected reasons (the lack of reserves in the import

counterpart fund). The Corporation remained inactive until April 1949. At that time, a credit program was adopted permitting the application of the Military Government's import counterpart fund to investments in electric power and mining development. No funds were provided for housing.

By barring the German governments from the levers of central bank credit, the occupation authorities severely limited their power to contribute to long-term financing and to the relief of continual (social security) and temporary (unemployment) social needs. These needs are great and varied in the present and in the foreseeable future, the most urgent one being settlement of millions of refugees and immigrants and their economic recovery. Operating under injunction to break even, the households of the eight land governments of the bizonal areas nevertheless showed a deficit of more than DM $\frac{1}{2}$ billion in the second half of 1948, which was met chiefly by drawing down the original allotments of D-Mark.

The problem of the allocation of power over credit is of course tied to the general problem of saving and investment in the economy. It is easy to see that the issue of "thrift *vs.* extravagance" cannot be met simply by putting strings on the government's purse. It is harder to ensure a sufficiently high volume of savings in a socially acceptable form under the circumstances prevailing in Germany. To this basic problem, inflationary recovery under slack controls has not provided an answer. The volume of savings that is currently expected even on most optimistic assumptions, falls far short of estimates of necessary capital formation for essential purposes (DM 6.6 billion for 1949-50). Profit accumulation in many lines of business has been considerable since currency reform; but part of it has been dissipated in unessential investments and purchases of luxuries. At the present time, the problem of making austerity popular and of directing the savings that are forthcoming to essential uses is unsolved. What began as a nominally non-inflationary policy ran into all the social equity problems, if not the economic problems, of inflation because of failure to enforce austerity in a socially acceptable manner.

This failure, however, should not be attributed to a lack of determination on the part of the man who carried the chief executive responsibility for economic policy during the period following monetary reform, Professor Ludwig Erhard, director of the bizonal Office of Economic Administration. Erhard deliberately relied on market forces to enforce greater productivity and savings. It was his policy to make the new markets the vehicle of recovery and to wait for a larger aggregate of income to soften the impact of growing inequality. Within the given difficult setting, lacking power over fiscal policy, and endowed with a

disintegrating and corrupted control machinery, probably no German leadership could have engineered recovery in a less objectionable manner under the circumstances of 1948. But this did not make the economic recovery a social success. The increase of economic inequality between employers and workers, between the native population and the refugees, between the owners of property and goods and the holders of small cash savings put the stamp of inequity on the recovery process and invited irresponsibility and conflict.

Erhard's economic policy may be examined under three headings: (1) re-establishment of markets; (2) slackening of controls; (3) steering of markets.

Re-establishment of Markets

Markets sprang up through the withdrawal of all-comprehensive price, rationing and allocation controls. The extent of this move can be seen in Table IV. Practically all of the listed goods previously had been under allocation and/or rationing and—including the services—under maximum prices, and many of the manufactured articles had practically vanished from the legal markets. Now great hoards of razor blades, kitchen utensils, furniture, bicycles, building materials, home and factory equipment, etc., were disgorged and absorbed by eager buyers.

The re-appearance of legal markets and effective prices was a turbulent process. Prices of the decontrolled commodities ceased to be uniform and stable. Buyers spent their new money freely, held back for fear that the money would give out, spent again when they got more money through conversion or the sale of hoards, bought for fear of rising prices, stopped again under the pressure of lagging incomes from work. The black market was disorganized, at least temporarily, and the new black market that began to form showed a much lower price level than the old. Bilateral exchange went out of existence overnight; but in the fall of 1948 a relapse into the practice was noted in some places.

Slackening of Controls and Price Movements

Not all controls were abolished (see Table IV); but most of those that remained were relaxed by the administration or circumvented by the people. Little was done to provide the crumbling control agencies with new powers or guiding principles. Where controls remained, the black market was permitted to spread and to gain acceptance by the new spirit of "enrichissez-vous." Freed of social opprobrium, it expanded considerably in the field of food distribution.

Two months before currency reform the Anglo-American occupation

authorities permitted coal and basic steel prices to rise. The increases amounted to about two-thirds and one-half, respectively, of previous

TABLE IV.—EXTENT OF DECONTROL, FALL, 1948*

<i>A. Remaining under Maximum Prices</i>	
	Basic foodstuffs and agricultural products ^a
	Coal and coal products ^b
	Crude oil, liquid fuels from petroleum ^b
	Crude iron and steel and primary output of rolling mills ^b
	Iron ore and scrap ^b
	Non-ferrous and precious metals ^b
	Fertilizers and insecticides ^b
	Insulin and penicillin ^b
	Tobacco and tobacco products ^b
	Rents and leases
	Film rentals and entrance fees
	Certain professional fees and charges
	Rail rates
	Rates for electricity, gas and water
	Public insurance policies
	Trade margins on foreign trade
<i>B. Remaining under Fixed Minimum and Maximum Prices</i>	
	Agricultural items: grain and products, potatoes, oilseeds, sugar, butter, yeast, farm prices of milk, sugar beets, slaughter cattle
	Rates for inland waterway and long distance truck transport
	Rates for compulsory motor vehicle insurance.
	German medicinal tariff
<i>C. Free of Price Control</i>	
	Fresh fruits and vegetables, game, honey, coffee, tea, spices, wine, cider
	Restaurant meals ^a
	Virtually all manufactured products
	All chemicals except fertilizers and insecticides
	All timber ^b and all wood products
	All paper products
	Textiles and clothing ^a
	Hides, leather and shoes
	Lubricants, greases, wax, paraffin, industrial benzol
	Pitch and products
	Most pharmaceuticals and cosmetics
	Glass and ceramics
	All building materials
	Output of the metal industries beyond the very early stages
	Potash and salt
	Purchase and sale of land and buildings
	Insurance premiums
	Various other public and private fees

* Source: Price Analysis Section, Bipartite Control Office, Frankfurt, Germany.

^a Remaining under rationing.

^b Remaining under some form of allocation.

^c Under a point system of rationing, at retail level.

prices. A few weeks after reform, a further increase of the coal price was accepted, leading to an aggregate rise of about 100 per cent over the level maintained till the 1st of April, 1948. A second steel price

TABLE V.—INDEX NUMBERS OF RAW MATERIAL PRICES, BIZONAL AREA*
(1938=100)

Materials	Middle of June 1948	Middle of October 1948
Basic Foodstuffs		
Rye and wheat	about 101	about 125
Barley and oats	about 101	116
Potatoes	148	166
Sugar	130	130
Oleomargarine	126	126
Butter	169	169
Eggs	106	499 ^b
Beef cattle, on hoof	119 ^a	170
Pigs	117 ^a	161
Weighted average of 15 basic foodstuffs	124	152
Industrial Raw Materials		
Coal (<i>Steinkohle</i>)	164	207
Lignite	108	147
Iron	215	215
Copper	261	317
Lead	454	732
Zinc	493	684
Aluminum	96	126
Thomas fertilizer	103	131
Phosphates	164	125
Cotton and cotton yarn	359	359
Wool	174	174
Rayon	138	154
Cattle hides	100	560
Calf skins	100	605
Cellulose	181	248
Bricks	189	230
Cement	132	158
Lumber, cut	143	228
Sulphuric acid	159	223
Gasoline	103	103
Rubber	164	71
Weighted average of 29 industrial raw materials	176	214
General index	155	189

* Statistical Office of the Combined Economic Area: *Statistische Monatszahlen*, Wiesbaden, November 1948, 38.

^a Excluding subsidies paid in British zone to the end of June, 1948.

^b A free price; no eggs being available at the legal maximum price that was re-imposed after initial control.

increase proposed by the industry, however, was rejected in view of the economies brought about by the considerable increase in steel production. The controlled prices of nonferrous metals were raised by substantial amounts. In this way, and through the rise of various decon-

TABLE VI.—LEGAL AND BLACK MARKET PRICES IN HAMBURG BEFORE AND AFTER REFORM, 1948*

Commodity	Unit	May 15	June 19	June 30	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15
Rye Bread	1 kg	.35	.35	.35	.35	.41	.41	.41	.41
U.S. Wheat Flour	1 kg	9.50	16.00	1.15	1.03	1.15	.92	1.06	1.02
black	1 kg	.44	.44	.44	.44	n.a.	n.a.	n.a.	n.a.
White Sugar	1 kg	40.00	120.00	3.00	3.00	3.10	3.10	3.20	3.75
legal	1 kg	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.14
Butter	1 kg	40.00	160.00	6.00	5.50	5.00	5.20	5.60	6.65
black	1 kg	3.60	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Oleomargarine	1 kg	480.00	1000.00	22.00	24.00	23.00	24.00	30.00	39.30
legal	1 kg	1.96	2.44	2.44	2.44	2.44	2.44	2.44	2.44
black	1 kg	360.00	700.00	14.00	15.00	16.00	15.00	17.50	20.50
Eggs	each	.13	.13	.35	.40	.60	.65	.90	.30
black	each	8.00	20.00						.95
Coffee	1 kg	n.a.	n.a.	n.a.	n.a.	54.00	48.00	56.00	26.12
legal	1 kg	600.00	2000.00	48.00	47.00	45.00	41.00	41.00	39.00
Tea	1 kg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
black	1 kg	900.00	4000.00	80.00	60.00	67.00	66.00	67.00	75.00
German Cigarettes	each	.16	.16	.16	.16	.16	.16	.16	.10
legal	each	2.00	15.00	.20	.20	.20	.18	.18	.17
black	each	.30	.30	.30	.30	.30	.30	.30	.25
American Cigarettes	each	6.00	40.00	.30	.40	.43	.40	.40	.44
black	each	.30	.30	.30	.30	.30	.30	.30	.44

* Source: Price Analysis Section, Bipartite Control Office, Frankfurt.
 † Free price.

trolled prices, the long delayed adjustment of basic industrial prices to cost increases materialized, and since expansion of production generally tended to lower unit costs, their producers found themselves in a more comfortable price position.

The index numbers, published by the Bizonal Statistical Office (Table V) reflect the extent of the price increases of primary products during the first four months after reform.

Upon decontrol, the prices of most finished industrial goods began to rise. The most significant consumer price increases up to the end of 1948, amounting to a doubling or even greater advance over previous prices, occurred with footwear where they reflected in part increased raw material prices, and with textiles where the prices of imported materials had remained unchanged. In view of the urgent need for shoes and wearing apparel in the population, the great price increases and the weakening of rationing controls over these goods caused much public discontent. The pricing of shoes and textiles out of the reach of industrial workers brought "compensation trade" back on the stage. Toward the end of 1948 there were growing signs of producers making deliveries contingent upon counter-deliveries of wearing apparel, and of their offering the goods to the workers, at reduced prices, in place of wage increases.

The prices of basic foodstuffs have been raised since reform by about as much as the prices of industrial materials. The weighted average of 15 basic foodstuffs in Table V increased by 23 per cent, that of 29 industrial materials by 22 per cent. But food prices have not risen proportionately to the advance of decontrolled *finished* industrial goods. As a result of this discrepancy and the weakness of controls, a considerable expansion of the black market for meat and other foodstuffs seems to have taken place. Despite the excellent crop, official bread grain deliveries in the bizonal area, August through November, 1948, were little higher than during the corresponding months of 1947, "a very bad crop year, and actually lower than in 1946."¹⁷ Supplies were used to feed poultry and cattle, whose products can be sold profitably on the black market. Black market foodstuffs can be obtained generally and easily from retailers at prices two to five times the legal levels.

The reduced price spread and the apparently larger volume of transactions distinguish the post-reform black market from its predecessor. The transition from one price level to the other can be seen in Table VI, which shows the development of legal and black market prices in Hamburg. The data indicate the liquidation boom of

¹⁷ OMGUS: *Monthly Report of the Military Governor*, Statistical Annex XXII, December, 1948, p. 89.

the old black market in the days before June 20th, and the following sharp adjustment. It will be seen that the black market price for coffee temporarily dipped below the legal price after the latter had been raised by a high excise tax.¹⁸

A general black market price index has been reported for six towns in Bavaria.

TABLE VII.—INDEX OF BLACK MARKET PRICES IN SIX BAVARIAN TOWNS*
(Average legal retail price=1)

Year, 1948	
<i>Before currency reform</i>	
May 15	93.3
June 15	127.9
<i>After currency reform</i>	
June 30	3.8
July 27	3.7
August 27	3.7
September 24	4.1
October 1	4.3

* Source: Munich Research Office for Economics, quoted in Bipartite Control Office, Price Analysis Section: *Price and Market Developments*, 33rd Report, October 25, 1948.

Following the ideas of "market splitting" that have attracted some interest among German economists,¹⁹ it has been proposed to abolish the compulsion to deliver the entire production of basic foodstuffs at legal prices, and to replace it by quota deliveries at legal prices (the controlled market) and free sales of production in excess of quotas (the free market.) Such a procedure might help sustain deliveries while maintaining the low cost of the basic food ration. But it has not been adopted, since the German authorities felt unable to administer it. The German authorities would have abolished rationing and price control of foodstuffs altogether, if the occupation authorities had not prohibited such a measure.

As a result of these price movements there occurred a noticeable increase of legal living costs. The bizonal cost of living index advanced from 134 per cent of 1938 in June, 1948 to 144 per cent in December; but this index understates the actual increase that occurred in the transition from legal prices before reform to controlled and uncontrolled official prices after reform, if only for the reason that retailers usually quoted nominal prices to the official price collectors. Any true evalua-

¹⁸ This excise tax, imposed under the "little tax reform" of June, 1948, was reduced later in the year.

¹⁹ One of the clearest formulations can be found in a pamphlet by Professor W. Kromphardt, "Marktsplaltung und Kernplanung in der Volkswirtschaft," *Dortmunder Schriften zur Sozialforschung*, No. 3, Hamburg, 1947.

tion of the development of living costs through this period of institutional change would have to allow for the changing volume and price level of the black market. It would probably show an average increase of more than 10 per cent in effective living costs during the second half of 1948.

There was also a noticeable advance of wages during this period. The principle of the general wage stop was maintained after currency reform until the Economic Council resolved to abolish it in October, 1948. But the wage ceiling had been raised shortly before the reform when the Allied authorities permitted wage increases up to 15 per cent of the payrolls involved. These increases were consummated chiefly after the reform and led to a rise of average hourly earnings in industry by 16 per cent from June to December, 1948. Average weekly hours of work increased from 41 to 44, *i.e.*, by 8 per cent, and average weekly earnings by 25 per cent. In December, 1948 the average hourly earnings of industrial workers stood at 141 per cent of 1938.²⁰ Their rise during the second half of 1948 was greater than that of the official cost of living index (9 per cent), but smaller than that of output per man hour in industry (18 per cent).

Steering of Markets

The development of prices and wages stimulated demands for more effective price controls. The trade unions, in particular, opposed the dissolution of the old price control system and demanded the re-establishment of a central price administration. The demand for stricter price controls, possibly assisted by subsidies, may receive further impetus from the increase of the prices of imported foodstuffs that is likely to follow the application of the 30-cents conversion rate to these imports, scheduled to go into effect on May 1, 1949.²¹

Professor Erhard strongly opposed a revival of governmental price controls. A law against extortionate prices was passed by the bizonal Economic Council to placate the opposition. It made the charging of "obviously excessive prices" a penal offense and put a paper weapon into the hands of a paper enforcement agency. In addition, the bizonal administration undertook to publish lists of "normal prices" and ordered merchants to display them in their stores. These lists may have been no less effective in encouraging price increases up to the "normal" levels than in checking high prices. Producers were encour-

²⁰ Statistisches Amt des Vereinigten Wirtschaftsgebietes, *Wirtschaft und Statistik*, Vol. 1 (new series), No. 1 (April, 1949), p. 22.

²¹ Previously, basic foodstuffs brought in under Military Government programs were sold at legal domestic prices, implying a conversion rate of more than 30 cents to the D-Mark. The same holds true for imported seed, fertilizer and medical supplies.

aged to control the wholesale and retail prices of their products. Finally, a program was initiated to make manufacturers produce consumers' goods, especially textiles, at relatively low prices. This so-called "Every-man" program was based on a study of the British "utility" program; but it lacked the strict rationing and price control features of the latter. Rather than a government program, it represents the advance of industrial recovery into the field of cheap, mass-produced consumers' goods after the market for more expensive goods had shown its limits.

In the main, the Erhard administration relied on productivity increases, competition and relatively scarce credit to stop the upward movement of prices and to forestall broad wage increases. Price declines in early 1949 seem to indicate a success of this policy; but they may also foreshadow the end of the decontrol period. The slack of the economy has been taken up and further progress is likely to demand more effective control policies in the fields of distribution, if not prices.

Through the introduction of a uniform conversion rate, the development of prices in Germany has become of significance for her exports, and German prices in turn have come under the influence of foreign price developments through imports. The linking-up of German and foreign prices still is in an experimental stage, with substantial exports leaving the country under special arrangements implying a cheaper D-Mark, and imports, especially of foodstuffs, coming in on terms of implying a dearer D-Mark. In conjunction with the rise of domestic prices, the 30-cents conversion rate tended to discourage exports of various manufactured goods and caused export interests to demand a 27- or 25-cents rate. A lowering of the conversion rate would of course tend to make imported raw materials and foodstuffs more expensive. The occupation authorities, who have exclusive jurisdiction in this matter, have held on to the 30-cents rate for the time being, exploring the problems and watching the pressures affecting the issue.

Performance of the Economy

The substantial recovery of the Western German economy since mid-1948 is apparent from industrial production and foreign trade statistics. Between June and December, 1948, the bizonal index of industrial production rose from 51 per cent of 1936 (same area) to 78 per cent, that is by 53 per cent. Recovery in the producers' goods industries was on the whole somewhat faster than in the consumers' goods industries, with iron and steel production rising from 30 to 51 per cent of 1936, vehicle construction from 26 to 69 per cent, electrical equipment from 81 to 163 per cent; but the advance of such consumers' goods industries as shoes (from 29 to 75 per cent of 1936) and textiles and clothing (from 36 to 59 per cent) was quite remark-

able too. The ratio of current production to that of 1936 in the same area, however, is no measure of the relative level of industrial supplies available, especially on a *per capita* basis. Considerable changes in the structure of industry and trade and the great population increase in the area, among other things, have held that level much below 80 per cent of 1936.

In the field of foreign trade, the second half of 1948 showed a radical improvement of the volume of intake and outgo and a better share of manufactured products in total exports. The excess of merchandise imports over exports, however, remained the same in absolute amount.

TABLE VIII.—MERCHANDISE TRADE OF THE BIZONAL AREA, IMPORTS AND EXPORTS*
(RM or DM, 000,000 omitted)

Imports	Food-stuffs	Industrial			Total
		Raw Materials	Semi-finished Products	Finished Products	
1936	797.0	967.0	417.0	186.0	2,367.0
First half of 1948, annual rate	1,494.4	470.6	291.0	85.6	2,341.6
Second half of 1948, annual rate	2,115.6	992.4	613.4	224.8	3,986.2
<i>Exports</i>					
1936	57.0	317.0	291.0	2,055.0	2,720.0
First half of 1948, annual rate	54.6	262.4 ^a	283.2 ^b	368.8	969.0
Second half of 1948, annual rate	42.6	652.4 ^a	801.8 ^b	1,167.8	2,664.6

* *Monatliche Aussenhandelsstatistik des Vereinigten Wirtschaftsgebietes*, December, 1948. Data include the foreign trade of the U. S. and British sectors of Berlin. 1936 data are estimates of foreign trade activities directly affecting the same area in that year.

^a Chiefly coal and lumber exports.

^b More than three-fifths consisting of coke exports.

The progress of the general efficiency of the Western German economy cannot be assessed as easily as the progress of its gross output. On the one hand the economy rests on the props of American and to a lesser extent British aid, amounting to about \$1.2 billion currently, on an annual basis. On the other hand, it is subject to the drain of occupation costs, amounting to a total of similar if not slightly higher magnitude,²² and a certain amount of leakage caused by smug-

²² For 1947-48, Dr. Eduard Wolf estimated the overt (budgeted) occupation costs, including expenditures for displaced persons, reparations, restitutions and demilitarization, at RM 4.6 billion in the Bizone, RM 5.3 billion in the Trizone. ("Investitionbedarf, Sparvolumen, Zahlungsbilanzausgleich," *Zeitschrift fuer das gesamte Kreditwesen*, October 15, 1948). The current rate of these expenditures was probably lower in early 1949; but it is not likely to have dropped below DM 4 billion, or the equivalent of \$1.3 billion.

gling (capital flight)²³ and the lack of coordinated control over the external trade of the French zone. The prospects of the German balance of payments would of course improve if part of the occupation costs came to be treated as invisible exports, and paid for accordingly, as they are in Austria. Without such an arrangement, the bizonal economy still has a long way to go to raise its exports to the target rate of about \$3 billion (DM 10 billion) for 1952-53, and to reduce its import surplus, particularly with the dollar area, significantly. Along this way, it must expect to find great external obstacles and small rewards in terms of higher living standards.

The economic efficiency of the incipient Western German state is limited by the decay of the body politic that advanced greatly during the Hitler period and that cannot be considered as checked today. The physical recovery that has taken place has given the German society a new lease on life; but neither the new economic institutions nor the external aid that is fed to the system are bound to produce a healthy and peaceful community. The new markets do not necessarily encourage democracy and there is not enough democratic authority to assure fair trading in the markets. It is too early to say whether the economic and social problems opened up by the reforms and the policies of 1948 will be more tractable than the problems that were solved by them. The present experience only shows that the German economy reacted to strong new stimuli after several years of great disorganization, and it proved once more its capacity to produce.

²³ In a press conference on January 26, 1949, General Clay estimated the loss of foreign exchange through smuggling as \$100 to 200 million per year, currently.

The turnover of D-Marks in the Swiss currency markets was reported as DM 1 to 2 million per day at the end of 1948. (*New York Times*, December 27, 1948.) The free exchange rate for the D-Mark on the Zurich market was about \$.07 in mid-October, 1948, \$.14 in mid-April, 1949.

ANALYSIS OF DISSAVING

By GEORGE KATONA*

The analysis of saving by consumers has traditionally been conducted on rather simple lines. On the aggregate level saving, defined as the difference between personal income and consumer expenditures, was usually expressed by one magnitude, either in billion dollars or in per cents of income. It was assumed that the most important variable determining both the amounts saved and the proportions of income saved is the given income level. Numerous investigations confirmed that years of high personal income were characterized by high saving and years of low income by low saving, occasionally even by net dissaving. According to the most recent estimates of the Commerce Department, consumer expenditures exceeded disposable personal income only during the deepest depression, namely in 1932, 1933, and 1934.

Similar considerations were applied when the analysis was made on the level of individual families. The results of expenditure surveys were presented in one continuum. Amounts saved were ranked from the largest saver to the smallest saver, then to the "zero saver" (whose expenditures equalled his income), then to the smallest dissaver, and finally to the largest dissaver. It was sometimes assumed that the large savers were, on the whole, the high-income people, and the dissavers, the low-income people. The dissavers were considered the unfortunate people who were unable to make ends meet and therefore were compelled to reduce their assets (to consume part of their wealth) or to mortgage their future by borrowing. Not only aggregate and average savings were assumed to increase with income, but it was also thought that the higher the income, the larger will be the proportion of the savers and the smaller the proportion of the dissavers.

Are these assumptions generally valid or do we know of any exceptions? More specifically: Is it always true that when income increases, average rates of saving also increase and the proportions of dissavers decrease? The answer is that in 1946 and 1947, in terms of money income, the opposite happened. This is shown in Table I, in which the aggregate computations of the Commerce Department are presented, together with survey data¹ which show distributions of individual

* The author is program director of the Survey Research Center and associate professor of economics and psychology at the University of Michigan.

¹ The material presented in this article is taken from the Surveys of Consumer Finances, conducted by the Survey Research Center of the University of Michigan for the Board

TABLE I.—TREND OF CONSUMER SAVING, 1945-47

	1945	1946	1947
<i>Aggregate Data</i> ^a (In billion dollars)			
Personal income after taxes	149	159	174
Personal saving	27	12	9
Saving in per cent of income	18%	7%	5%
<i>Micro-economic Data</i> ^b (In per cent of all spending units)			
Proportion of positive savers	70	65	64
Proportion of zero savers	13	8	8
Proportion of dissavers	17	27	28
	100	100	100
(In per cent of aggregate net savings ^c)			
Amounts saved by positive savers	115	144	175
Amounts saved by zero savers	0	0	0
Amounts saved by dissavers	-15	-44	-75
	100	100	100

^a Source: Department of Commerce.

^b Data taken from Surveys of Consumer Finances conducted by Survey Research Center of the University of Michigan for the Board of Governors of the Federal Reserve System. The first survey was made early in 1946, the second, early in 1947, and the third, early in 1948. Each survey was based on a separate representative sample of consumers in continental United States living in private households.

The consumers were grouped in spending units, defined as all related persons living in the same dwelling who pool their incomes for their major expenditures. There are about 15 per cent more spending units than family units.

The amounts saved or dissaved were determined by asking separate questions about each form of saving (change in bank deposits, life insurance premiums, installment purchases, etc.). Positive savers are the units whose income exceeds their expenditures, dissavers the units whose expenditures exceed their income.

The definition of saving as used in the surveys (see *Federal Reserve Bulletin*, August, 1948, pp. 928-29) is not quite the same as that used by the Commerce Department. The most important differences are that the Commerce Department does and the surveys do not include in the savings schedule depreciation on farms and nonfarm homes, and that the surveys include all insurance premium payments, not only additions to insurance reserves. Therefore, aggregate net savings as computed from the surveys are higher than those computed by the Commerce Department. According to the definitions used by both agencies, purchases of consumer durable goods are considered as expenditures and not savings. Finally, additions to and withdrawals from currency holdings are disregarded in the surveys.

^c The total amounts of net savings are taken as 100, and the share of positive savers and of dissavers in that total is shown. The table serves to indicate the relation between amounts saved and dissaved in the three years. It must be kept in mind that the base of each of the three columns is different. The amounts of net savings were much smaller in 1947 and 1946 than in 1945.

families. The aggregate figures show only *net* saving, which represents the difference between amounts saved and amounts dissaved, and they

of Governors of the Federal Reserve System. Reports of the surveys, containing a description of the sample, of interviewing methods, of the reliability of findings, as well as of results, appeared in the *Federal Reserve Bulletin* (see the June, July, and August 1947,

"do not reveal the number of families who spend more than they earn."²

We find that, in dollars, personal income increased both in 1946 and 1947. Yet in 1946 the proportion of consumer units who dissaved increased considerably and the share of total dissavings in the aggregate net savings increased likewise. In 1947 there was hardly any change in the proportion of savers or dissavers, but the share of total dissavings rose further. The amounts saved by the positive savers remained considerable in both years, although they were much smaller than during the war. These data are presented to form the starting point of the analysis. Since they are expressed in terms of money income and do not show the relation of high or low rates of saving to income, they do not necessarily contradict the general assumptions that were described previously.

The most striking development of the years 1946 and 1947 was the increase in the number of dissavers and in the amounts dissaved. Therefore, the relation of consumer saving to income and to other variables will not be analyzed for all American families, but positive savers—the roughly two-thirds of families who spent less than their income—and dissavers—the over one-fourth of the families who spent more than their income—will be studied separately.

Before beginning with this study, attention must be called to the definition of saving used (see also note to Table I). Addition to liquid asset holdings, life insurance premiums, new investment in houses, businesses and securities, and repayment of debt are considered as amounts saved, and the reverse of these transactions as withdrawals from savings. What is most controversial in this definition is that some housing expenditures (additions to and improvements of homes owned) are treated as saving, and that purchases of consumer durable goods are treated as expenditures. If the former were not considered as additions to the permanent wealth of the consumer, the proportion of savers and the amounts saved would have been smaller during the first post-war years; if the latter were considered as such additions, the reverse would have been the case.

The years 1946 and 1947, that are being studied here, are often called "abnormal" years. They are so considered because they follow

and the June, July, August, and September 1948 issues). Most of the data presented in this article have not been published previously. The author of this article was in direct charge of the surveys. He wishes to acknowledge his great indebtedness to his collaborators, both in the Survey Research Center and the Division of Research and Statistics of the Federal Reserve Board. Mr. Joseph Clawson was especially helpful in preparing this article. Those who financed, supervised, and contributed to the surveys are, however, not responsible for the conclusions drawn from survey material in this article.

² *Midyear Economic Report of the President*, July 1948, by the Council of Economic Advisers (Washington, 1948), p. 7.

the war years in which consumers accumulated huge amounts of liquid assets and abstained from buying durable goods and from repairing and improving their homes. Therefore, the developments of these years are sometimes thought unsuitable for the analysis of relationships between economic variables.

Since it is questionable whether any given years ever present "normal" patterns, this argument points to limitations of short-run, cross-section studies. Naturally such studies need to be supplemented by time-series studies extended over many years. But the reverse statement also holds good. One objective of this paper is to show that the usual aggregative time-series studies need to be supplemented by micro-economic short-run analysis.³ The other objective is to shed light on certain trends of the recent past which may affect developments in the near future.

Relation of Positive Saving to Income

The analysis of positive saving appears to confirm the traditional views. The higher the income, the larger was the proportion of positive savers and especially the proportion of large positive savers (units who saved over \$500) in 1946 and 1947. If in addition to the number of positive savers, the amounts saved by them are also taken into account, as is done in the right-hand side of Table II, the differences are more pronounced. Low-income groups accounted for a very small share of the total amounts of positive saving, while the top 10 per cent of income receivers alone saved about one-half of the amounts saved by all people. The sharply accelerated curve of positive saving in relation to income can be seen in Figure 1.

A similar relationship is obtained if instead of all positive saving the two most important forms of saving are considered. Additions to liquid asset holdings (savings bonds, and savings and checking accounts) and savings usually contracted for many years in advance (life insurance premiums, payments into retirement funds, and repayment of mortgage debt) represented during the last two years the most frequent ways of saving, responsible for most of the amounts saved. Both forms of saving gain in frequency when income increases (Table III, Part A). This relationship becomes more pronounced when large amounts of saving are considered.

This does not mean that positive saving is the function of nothing but the given income level. No detailed analysis of the relationship of posi-

³ See the author's paper, "Contribution of Psychological Data to Economic Analysis," *Journal of the American Statistical Association*, Vol. 42, pp. 449 ff., 1947, on the relation between aggregate financial data, micro-economic financial data, and attitudinal and motivational data.

tive saving to other factors will be presented here. Yet it may be noted that many of the variables which show a positive correlation to amounts saved are themselves correlated with income (liquid asset holdings, urban or rural residence, occupation, etc.). By studying the influence of these factors on saving within identical income groups, it appears that certain occupational groups (businessmen, business managers, pro-

TABLE II.—RELATION OF SAVING AND DISSAVING TO INCOME

Spending Units Ranked According to Their 1947 Money Incomes Before Taxes	Proportion of Spending Units in Each Income Decile Who in 1947 ^a				Distribution by Income Deciles of Aggregate Amounts of			
	Saved Any Amount	Dissaved Any Amount	Saved Over \$500 ^a	Dissaved Over \$500 ^a	Positive Savings ^b		Dissavings ^b	
					1947	1946 ^d	1947	1946 ^d
Lowest tenth (less than \$750)	41%	25%	3%	12%	1%	1%	15%	13%
Second tenth (from \$750 to \$1200)	53	33	5	7	1	2	6	12
Third tenth (from \$1200 to \$1700)	60	29	5	11	2	3	7	7
Fourth tenth (from \$1700 to \$2100)	62	31	12	5	4	4	5	8
Fifth tenth (from \$2100 to \$2550)	68	27	20	8	5	5	6	13
Sixth tenth (from \$2550 to \$3000)	69	30	20	12	6	6	11	11
Seventh tenth (from \$3000 to \$3500)	69	30	28	12	7	8	10	11
Eighth tenth (from \$3500 to \$4200)	64	33	30	16	8	12	10	7
Ninth tenth (from \$4200 to \$5700)	73	27	42	13	14	15	11	12
Highest tenth (over \$5700)	82	17	65	13	52	44	19	6
All Groups	64	28	23	11	100	100	100	100

^a The data indicate, for instance, that among the 10 per cent of spending units who had the lowest incomes in 1947 (whose income before taxes was less than \$750) 41 per cent saved some money, 3 per cent saved over \$500, 25 per cent dissaved, and 12 per cent dissaved over \$500.

^b The total of dollar amounts saved by all positive savers, and the total of dollar amounts dissaved by all dissavers, are taken as 100 per cent; the share of the units in each income decile in these totals is shown.

^c Large positive and large negative savers are defined here as spending units who saved (dissaved) \$500 or more. This definition is used, in preference to defining large savers as units saving a high proportion of their income, because of the importance of large amounts saved and dissaved for the entire economy.

^d Positive savings and dissavings in 1946 are related to income in 1946. The presentation of other data for the year 1946 is omitted; the proportion of spending units in each income decile who saved or dissaved in 1946 shows a similar trend as the proportion who saved or dissaved in 1947.

fessional people, and farm operators) and people in the middle-age groups saved in 1946 and 1947 a somewhat greater proportion of their income than other occupational groups or younger and older people.

Relation of Dissaving to Income

The analysis of dissaving will be carried out in greater detail because dissaving in its relation to income, as well as to other factors, does not present a picture that is the reverse of that of positive saving. First of all, dissaving was unevenly distributed in the various income groups. The statement "the lower the income, the larger the proportion of dissavers," was not confirmed in either 1946 or 1947. Most of the differences in the proportion of units in each income decile who dissaved are so small (Table II) as to be not significant statistically. Only in the

TABLE III.—RELATION OF THE MOST IMPORTANT FORMS OF
SAVING AND DISSAVING TO INCOME, 1947A. Forms of Positive Saving^a

1947 Money Income before Taxes	Proportion of spending units in each income group who:			
	Increased liquid asset holdings by ^b		Saved in con- tractual forms ^c	
	Any Amount	Over \$500	Any Amount	Over \$500
Under \$1,000	12%	2%	45%	1%
\$1,000-1,999	20	4	66	2
\$2,000-2,999	26	6	84	5
\$3,000-3,999	31	11	90	9
\$4,000-4,999	33	15	90	15
\$5,000-7,499	38	24	90	26
\$7,500 & over	46	37	89	53
—	—	—	—	—
All Groups	26	10	77	10

B. Forms of Dissaving^a

1947 Money Income before Taxes	Proportion of spending units in each income group who:			
	Decreased liquid asset holdings by		Borrowed money ^d	
	Any Amount	Over \$500	Any Amount	Over \$500
Under \$1,000	19%	8%	10%	1%
\$1,000-1,999	29	8	17	2
\$2,000-2,999	35	11	23	4
\$3,000-3,999	38	17	24	7
\$4,000-4,999	40	22	23	6
\$5,000-7,499	40	25	19	6
\$7,500 & over	29	21	11	7
—	—	—	—	—
All Groups	33	14	19	4

^a Spending units who increased their liquid asset holdings and who saved in contractual forms are not necessarily positive savers. Units who reduced their liquid asset holdings and who borrowed are not necessarily dissavers. Some few of the former dissaved through selling houses, businesses or securities. Some of the latter used the money they borrowed or withdrew from liquid assets for investment purposes.

^b Liquid asset holdings include U. S. Savings Bonds and savings and checking accounts with banks, loan associations, credit unions, and postal savings.

^c Premium payments on life insurance, payments into retirement funds, and repayments of mortgage debt.

^d Amounts borrowed on installment and from banks, credit unions, and loan companies. Borrowing money by taking out a mortgage on a newly purchased (or built) house is not included.

highest income decile did the proportion of dissavers drop significantly in 1947, but even this finding is contradicted if large dissavers, instead of all dissavers, are considered.

Similarly, the share of consumer units belonging to each income decile in the total amounts dissaved shows no regularity whatsoever, again in contrast to positive saving. In 1947—not in 1946—it so happens that the lowest and highest income deciles had the two largest shares in the amounts dissaved. The assumption that “the higher the income, the smaller the amounts dissaved” appears to be contradicted.

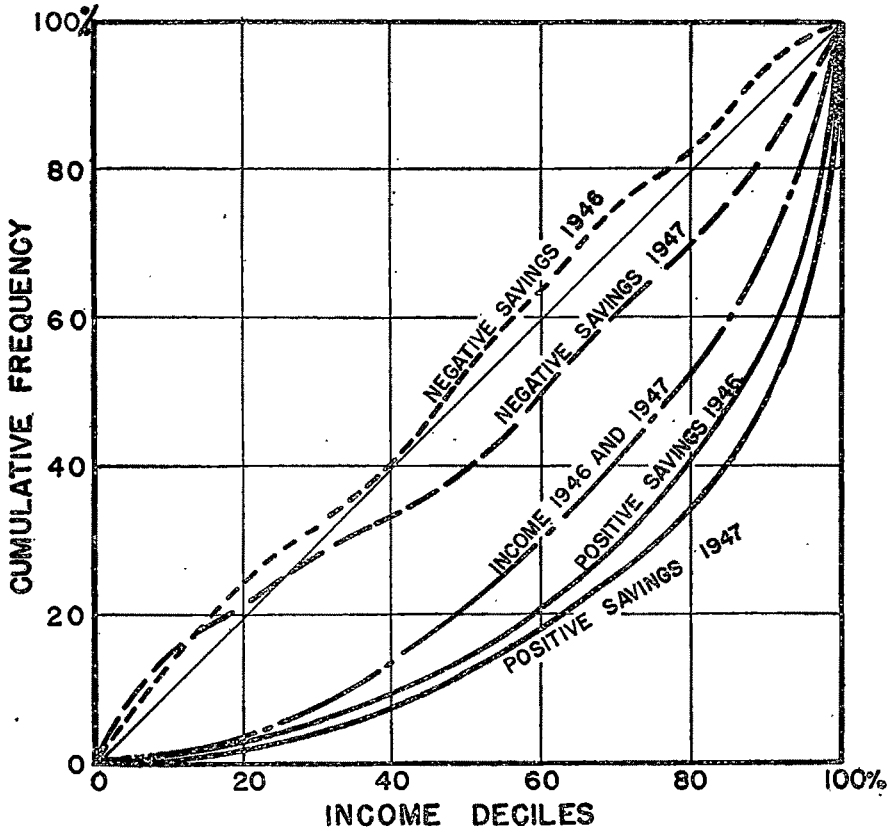


FIGURE 1. DISTRIBUTION OF INCOME RECEIVED AND AMOUNTS OF POSITIVE AND NEGATIVE SAVINGS BY INCOME DECILES

When, for 1946 and 1947, the amounts dissaved are ranked by the income of the dissavers, the curves are on both sides and close to the line drawn at an angle of 45 degrees (Figure 1), indicating the absence of any marked relationship of either high or low incomes to amounts dissaved.

Dissaving has likewise many forms, some of which were relatively infrequent in the last two years (for instance, net sale of common stock and of real estate, liquidation of business investments). In only two

ways did many families dissave, namely, by reducing their liquid asset holdings and by borrowing. Both forms of dissaving show an irregular relationship to income (Table III, Part B). Consumer borrowing was most frequent in the middle income groups. Large borrowing (over \$500) and also withdrawals from liquid assets appear to increase with income, that is, behave in a way similar to positive saving.

Kinds of Dissaving

In view of these results, it appears necessary to make a new start in the analysis of dissaving. Suppose we abandon the assumption that income level is connected with dissaving; can any other factors be found which may contribute to the explanation of the phenomenon of dissaving? After several attempts governed by economic as well as psychological hypotheses, and after setting up the questionnaire for the 1948 Survey of Consumer Finances in a way that was suitable to investigate certain assumptions, five variables were selected for testing their relation to dissaving.

The first of these variables (see Table IV) is the statement of the head of the consumer unit that he had unusual expenses due to illness or emergencies. The second is the unemployed or retired status of the head of the unit. Thirdly, decline in income was taken into account. The test of the relation between this factor and dissaving was conducted in two steps, once with respect to income declines which, subjectively, were considered temporary and once with respect to all other instances of income decline. Finally, purchases of consumer durable goods, and especially large purchases of such goods, were thought to be related to dissaving because such purchases were frequently financed through drawing on previously accumulated assets or by borrowing, and not out of income.

It may be mentioned at this point that one further variable was investigated concerning its relation to dissaving. This is the amount of liquid asset holdings, the size of U.S. Savings Bonds and savings and checking accounts held (at the beginning of the year). It was found that, of the spending units who had no liquid assets, relatively few dissaved. Naturally, they could not reduce their liquid assets and it appears that most of them also did not, and possibly could not, borrow. But in comparing the holders of small amounts of liquid assets with the holders of large amounts, no significant differences were found in the frequency of dissaving.⁴ Therefore, liquid asset holdings were not

⁴ This negative finding may form the starting point of a study of the relationship of liquid as well as other assets to both dissaving and positive saving. Possibly different results would be obtained if owners of large assets were split into two or more meaningful groups.

their frequency. A similar, though less pronounced relationship holds good for those who had a decline in income and dissaved. Therefore, for these two important groups of dissavers the original assumption has been confirmed: The higher the income, the smaller is the proportion of dissavers. This statement, originally assumed to hold good of all dissavers applies, however, only to those who dissaved under certain circumstances. There are other dissavers who show the opposite behavior. The higher the income, the larger was the proportion of those

TABLE V.—RELATION OF DIFFERENT GROUPS OF DISSAVERS TO INCOME, 1947

Money Income Before Taxes	Percentage distribution of spending units in each income group who:							
	Dis- saver any Amount	Dis- saver Over \$500	Had Illness, Emergency, Unemploy- ment or Re- tirement and		Had Income Decline (Temporary or Other) and		Made Large Purchases of Durable Goods and	
			Dis- saver any Amount	Dis- saver over \$500	Dis- saver any Amount	Dis- saver over \$500	Dis- saver any Amount	Dis- saver over \$500
Under \$1,000	26	9	16	8	11	5	2	1
\$1,000-1,999	31	8	14	5	8	3	4	1
\$2,000-2,999	30	10	12	3	7	3	9	5
\$3,000-3,999	30	12	11	4	6	3	11	6
\$4,000-4,999	30	16	13	7	6	3	13	7
\$5,000-7,499	21	12	6	3	4	2	11	6
\$7,500 & Over	16	13	5	4	4	4	11	8
—	—	—	—	—	—	—	—	—
All Groups	28	11	12	5	7	3	8	4

NOTE: The data indicate, for instance, that 26 per cent of those in the lowest income group were dissavers; 16 per cent of those in the same group were dissavers and had illness; 11 per cent were dissavers and had a decline in income; 2 per cent were dissavers and made large purchases of durable goods. That 16 plus 11 plus 2 exceed 26 is due to duplications within the sub-groups.

dissavers who spent large amounts for the purchase of durable goods. The resultant of the two contradictory trends is shown in the first two columns of Table V where all dissavers are considered and no clear relationship to income is apparent.

Interpretation and Conclusions

Since an association—for instance, between low income on the one hand and the frequency of dissaving and illness on the other hand—does not indicate a causal relationship, no use was made of the concepts of cause and effect in the presentation of the results. But in the following attempt to interpret the findings and to discuss their conse-

quences, it may be permissible to make use of the more common forms of language. It then appears that dissaving may occur under at least three circumstances (or their combinations):

1. Inability to meet "necessary expenses" out of income.
2. Unwillingness to meet "necessary expenses" out of income.
3. Willingness to make unusual expenditures.

First, there are people who, in a given period of time, are unable to cover their expenses for necessities (or their regular expenses) out of income. This may be the case because of illness or emergencies. It may also be the case because of unemployment or decline in income, and even because of certain purchases of durable goods that are considered inevitably necessary. Under these circumstances, some people will dissave. Not all such people will do so, because in the absence of assets and of credit dissaving is not possible. Furthermore, some people will abstain from dissaving even when in dire need and even though they hold assets. It seems that dissaving, because of inability to make ends meet, occurs more frequently among low- than among high-income people.

Secondly, there are people who under certain circumstances are unwilling to keep their living expenses at the level of their income. Typically, when income declines some people will keep up their standards of expenditure for rent, food, etc., even at the expense of drawing on assets or borrowing. Since dissaving was found to be more closely related to "temporary income declines" than to other income declines, it may be said that this behavior will be especially frequent when those whose income declined expect that their income will rise again. Unwillingness to make ends meet may, of course, also occur among retired people whose income had declined at an earlier date and not during the year in which the rate of saving is determined. In view of inflexible expenditures or obligations assumed at an earlier time, it may sometimes be difficult to distinguish the second instance of dissaving from the first.

Thirdly, there are people who decide to make certain unusual expenditures even though they will then spend more than their income in a given period. Purchases of consumer durable goods are a typical example, but large expenditures for vacation trips, or for clothing or luxuries, may lead to the same result. Dissaving, because of large purchases of durable goods, occurred more frequently among high- than among low-income people. Further investigations revealed one of the factors which contributed in 1946 and 1947 to the relatively great frequency of dissaving due to such purposes. More consumer units whose income increased and more units who expected income increases bought durable goods and dissaved than units whose income declined

and units who did not expect income increases. In other words, dissaving of that type was associated with income increases and with optimistic attitudes.⁵

It must be emphasized that dissaving may have several further forms which were not revealed by the current analysis. Also, the indications given in Table IV about the relative size of the various forms of dissaving in 1947 are suggestive at the best. Better methods used in determining the factors that led individual families to dissave may yield different proportions. But the preliminary analysis that was presented here permits us to draw the following conclusions.

First of all, dissaving must be considered a "short-run" or occasional behavior on the part of individual families. Only in one instance, in case of dissaving due to retirement, will it happen typically that a family would dissave for several consecutive years (when the family lives out of previously accumulated assets). It is, of course, also possible that a family with substantial assets would dissave one year because of the purchase of a car, the next year because of the purchase of furniture, the third year because of the purchase of a refrigerator, etc. But such purchases will more often be spaced over many more years or will occur together in the same year (in the year of marriage or the year in which a house was purchased). Moreover, if the dissaving takes the form of buying durable goods on installment, the next period will be typically one of saving since the installment debt must be repaid. Similarly, dissaving due to income decline will not often repeat itself. A decline of income in two consecutive years will probably lead to readjusting expenditure standards during the second year or will destroy the optimistic outlook of the family.

Preliminary investigations appear to confirm these assumptions. When people who dissaved or drew on their liquid assets in 1946 or 1947 were asked about their saving performance during the preceding year and about what they might be doing during the next year, most of them said that they had saved and will save money. The results are not conclusive because of several shortcomings in the methods used. Nevertheless, the following interesting conclusion may be noted: As shown in Table I, in each of the years 1946 and 1947 more than one-fourth of the American consumer units dissaved; it is conceivable that the proportion of those who dissaved in either of the two years was as high as 50 per cent of all units.

Under what conditions will dissaving be frequent and under what conditions will it be infrequent? One kind of dissaving appears to be

⁵ Information on these points and also on the relation of saving and dissaving to income increases and income expectations is contained in the author's article "The Effect of Income Changes on the Rate of Saving," *The Review of Economics and Statistics*, 1949.

a sign of prosperous economic conditions and a factor bringing about such conditions. The higher the income, the more frequent was dissaving due to the purchase of durable goods. Income increases were also associated with such dissaving. Therefore, possibly, the frequency of such dissaving will increase if national income increases. The same might be true with respect to dissaving due to income declines. If the income of a family declines in a year in which most families experience the same fate and national income therefore declines, optimistic income expectations may be infrequent and expenditure standards may be adjusted rather promptly. If, however, the income of a family declines in a prosperous year in contrast to the general trend—19 per cent of the consumer units had lower incomes in 1947 than in 1946—dissaving may be the result in a substantial number of cases.

It is, therefore, not surprising that dissaving was relatively frequent during 1946 and 1947, that is, in years of full employment and high production. The frequent occurrence of dissaving during depression years, as shown by the 1935-1936 Consumer Purchases Study and the Commerce Department tabulations about aggregate personal saving in the early 'thirties, presents, however, new problems. In this respect, it must be recalled that dissaving is not a unitary phenomenon. It is possible that the proportion of families who dissaved is the same in two years, one of which is characterized by high and the other by low business activity, but the functions of dissaving differ greatly in those years. No empirical evidence is available about the kinds of dissaving that are frequent during a depression.⁶

It follows further from the evidence presented in this article that great caution must be exercised in using regression equations expressing the past relation between net saving and income for extrapolating fu-

⁶ J. S. Duesenberry ("Income-Consumption Relations and Their Implications" in *Essays in Honor of Alvin H. Hansen*, New York, 1948) appears to relate dissaving in 1935-1936 to unemployment and to incomes that were low in comparison to previous incomes. This is possible, but as he himself states, cannot be proved on the basis of data available from the Study of Consumer Purchases. Duesenberry's major thesis that "cyclically, the aggregate propensity to consume depends on the ratio of current income to the highest income previously achieved" (pp. 79 ff.) disregards the possibility of a systematic relationship between income increases and the propensity to consume. Also, Duesenberry's statement is probably too broad; the highest income previously achieved may not affect the propensity to consume under all circumstances and in all future years.

We are, however, in full agreement with the major thesis of another recent paper. George Garvy ("The Role of Dissaving in Economic Analysis," *Jour. Pol. Econ.*, Vol. LVI, No. 5 [Oct., 1948], pp. 416 ff.) writes: "There is no logical reason for relating the motivations of two distinct groups of consumers—positive and negative savers—to the same set of causal factors" (p. 416). But in 1947 we found no confirmation for the following statement made by Garvy: "The presence in the population of relatively large groups of families who have suffered a loss of income accounts probably for the bulk of dissaving" (p. 423).

ture trends. Separate extrapolations of the saving and dissaving curves may present a somewhat better analytical tool because it appears to be justified to consider, in a simple model, positive saving as a function of income. But short-run generalizations ought to be based on the factors contributing to positive saving, to dissaving, and to shifts from the one to the other. The survey method appears to be a suitable tool to collect the information needed,⁷ although—and this must be emphasized—the past surveys represent nothing but the start of an analysis of saving behavior. Conducting surveys over many years, adapting survey procedures to the specific objectives of consumer motivation, and using more refined statistical methods (for instance, multiple correlation analysis) may be listed among the requirements of further research.

With respect to the analysis presented in this article, the first requirement looms largest. To what extent are our findings accidental phenomena of the first two postwar years, or phenomena prevailing only in prosperous years? Very little evidence is available to answer that question, especially in view of the possible effects of wartime deferred demand on expenditures in 1946 and 1947. The relationship of dissaving to income must be studied further under different conditions, especially in years in which purchases of consumer durable goods are relatively small. With respect to the possible objection that the analysis was conducted in terms of money income while real income may not have increased in 1946 and in 1947, it may, however, be pointed out that differences in the behavior of upper and lower income groups formed the major source of our conclusions. What is true of differences in the behavior, or of the absence of such differences, of families with high or low money income during the same year applies also to high or low real incomes.

Disregarding theoretical problems, we may attempt to interpret the findings concerning recent past developments. The substantial shift in the consumption-income relation during 1946 and 1947 was accompanied by an increase in the frequency of dissaving. Ability to spend more than one's income was provided by the large liquid asset holdings and the small size of consumer debt outstanding at the end of the war. Willingness to spend more than one's income was provided by the relatively high income level and the optimistic expectations of most families. Some people decided to step up their purchases of goods and services because their income was high and was expected to remain high (and more durable goods became available). Other people de-

⁷ This is also the conclusion of R. V. Rosa; see his article, "Use of the Consumption Function in Short-Run Forecasting," *Rev. Econ. and Stat.*, Vol. XXX, No. 2 (May, 1948), p. 100.

THE EFFECTIVENESS OF THE FEDERAL ANTITRUST LAWS: A SYMPOSIUM

Introduction

Dexter Merriam Keezer*

Recently I asked a company of men who have been closely concerned with the development and enforcement of the federal antitrust laws (primarily as economists and lawyers) to check in broad terms my unhappy impression that "these laws have done relatively little since 1890 to protect and preserve a broadly competitive system."¹ I also asked my correspondents to indicate the principal reasons for their views. I did not address my inquiry to anyone currently charged with official responsibility for antitrust law development and enforcement. The purpose was to avoid any shadow of official optimism, or pessimism, about these laws.

In reply to my inquiry I received a set of communications which seem to me to constitute an illuminating symposium on the antitrust laws. Hence, the communications, edited only to the extent of avoiding unnecessary duplication of the same idea or argument, were cast in the symposium which follows.

It will be observed that the contributions to the symposium vary markedly in length, comprehensiveness of treatment, etc. In seeking them I wrote that it was no part of my intention to burden my correspondents "with making a closely analytical and heavily documented statement" but that a brief summary statement of general impressions would be greatly valued. Consequently, when the contributions are more than this they more than fulfill the request to which they were addressed.

Because of the inevitable lack of uniformity in the contributions it was, of course, suggested that it might reflect unfairly upon the participants who wrote briefer or more hurried statements to have them presented in symposium form. This will not be the case, however, if it is kept very clearly in mind, as it should be, that only a simple, informal statement of impressions was required to meet the specifications set. Also, in retaining the informal character of the communications the vitality of the symposium is, I believe, enhanced.

Since no more certainly effective arrangement of their highly diverse subject matter has manifested itself, the contributions to the symposium are

* The organizer of this symposium is director of the department of economics, McGraw-Hill Publishing Co.

¹ In making my inquiry I explained that I did so "as one who would very much like to see the antitrust laws so enforced as to preserve a pervasively competitive system in the United States." I remarked that "such a system seems to me far more compatible with political freedom than any of the alternative systems of concentrated control, either public or private, which has thus far been developed." I added, however, that I was trying "not to confuse my preference with the realities."

presented in the alphabetical order of the names of their authors. At the conclusion of the individual statements, I have appended a few observations designed to emphasize some of the highlights of the discussion. If they do not succeed in fulfilling this purpose I alone am responsible, as each participant in the symposium has responsibility only for his individual contribution, and for a generous willingness to let it appear as a part of a general discussion of the effectiveness of the federal antitrust laws.

Thurman Arnold

Arnold, Fortas and Porter, Washington, D.C.

The antitrust laws have not been effective in the real world. Therefore, the temptation of an academician is to substitute an administration which looks well on paper and compare it with the antitrust laws as they operate. This seems to me very naïve political thinking. My belief is that the only instrument which has a chance to preserve competition in America is antitrust enforcement through the courts. Traditionally we accept the courts as an institution which cannot be criticized or badgered as we badger an administrative bureau. A grand jury investigation can be conducted without public protest in a way that is impossible for an administrative tribunal to function. That is because there is a judge in a robe sitting over it. An administrative tribunal taking drastic action against a powerful political group cannot survive. We have watched the Labor Board swing too far under union pressure and then we see Congress destroying its public prestige and power. Under our tradition and habits you cannot do that to courts.

Theoretically, of course, there are many other ways to preserve a competitive system. You could arrange a tax system to regulate the amount of business which large concerns may profitably do. For instance, Fred Raymond has worked it all out along these lines in a book, which John Chamberlain endorses, entitled "The Limitist." However, my political guess is that we will not depart from the traditional ways of enforcing antitrust laws.

Unfortunately, all antitrust law enforcement under any plan depends on the public attitude. It does not make much difference what your instrument for carrying out antitrust policy is, it will not be effective unless there is a strong demand. There was such a demand when I was in office.² Today, in an economy entirely dependent on government spending we are sufficiently prosperous that there is little demand. However, I expect the demand to grow as the consequences of the present centralization of economic power make themselves felt in the business world.

² Mr. Arnold was Assistant Attorney General of the United States in charge of antitrust enforcement from March 7, 1938 to March 16, 1943.

Wendell Berge

Posner, Berge, Fox and Arent, Washington, D.C.

The antitrust laws have not stopped the trend toward concentration of economic power, which today is greater than ever. That concentration threatens our continued prosperity and, indeed, the very existence of what we think of as a capitalistic system. It also threatens our free political institutions.

Why have the antitrust laws failed in their basic purpose? In my judgment, it is because we have never really made an "all-out" effort to enforce them. The funds appropriated for antitrust enforcement have never been adequate nor has the enforcement staff ever been equal to the job. Often the will to enforce has been lacking.

I do not think that there is any fundamental weakness in the laws themselves, although, of course, implementing legislation is necessary from time to time. I think that in the Sherman and Clayton Acts we have the legal weapons which could be effectively employed to reverse present monopolistic trends, if we had the will and the resources to use those laws to the utmost.

Is there any reasonable chance that revitalization of antitrust enforcement will become a cornerstone of new national policy? The answer depends, I believe, on the extent to which independent business and the general public become aroused to the acuteness of the problem. The next few years will tell the story. There are some favorable signs, but it is too early to make any confident prediction. If we do not move toward vigorous termination of monopoly power over American industry, it seems to me inevitable that we shall find ourselves in less than another generation with some form of government-controlled and socialized economy.

Arthur R. Burns

Columbia University

Although federal antitrust legislation has been on the books since 1890, there is very little doubt that we have failed to achieve a competitive system at all closely resembling that which was in the minds of the economists of the last century and which provided the background for the legislation. The reasons for this failure lie partly in the forces within the economic system operating in a contrary direction to the legislation and partly to difficulties of achieving competition by law.

The primary pressure away from an organization of industry likely to operate competitively is the industrial technique of production. This technique often requires plants of considerable size for most economical operations. Where considerations affecting the most economical location of industry involve the scattering of plants throughout the country, local monopolies tend to develop from this cause alone. Even in other industries relatively few plants sometimes emerge as a result of efforts toward the most economical scale of operation.

The fact that a considerable part of the costs of industrial production are fixed (the proportion varying widely, however, from industry to industry) permits price-cutting of the short-run type to drive prices down sometimes to the point at which they cover only marginal costs well below average costs. The fact that the industrial technique also involves investments with a considerable physical life means that prices can stay at these levels for considerable periods. However desirable this situation may be in broad economic terms, businessmen, pursuing the profit motive, seek to avoid it. Where they are relatively few, they can pursue their interest by coming to agreements or by price leadership. Alternatively, firms may bring under common control plants at a number of different production points. Thus, the firm may be considerably larger than the plant of the most economical size.

In other circumstances, and particularly in the sale of consumer goods, there is a tendency to turn to the differentiation of products and the use of promotion expenditures, particularly on advertising. Consequently, considerations as to the size of the most economical distributive and promotional organization begin to affect the size of firms and again firms may be larger than the smallest plant capacity capable of production at minimum cost. Thus, there are various forces making for large firms and larger firms mean fewer firms. Tariffs tend to reduce further the number of sellers in industries which are effectively protected from foreign competition.

There has also been a number of forces operating to increase the size of firms by increasing the variety of their activities as well as the scale of their operations in any one activity. The resulting patterns of integration are varied. Vertical integration seems to occur sometimes as a solution to otherwise insoluble problems resulting when at some stage of production there are not only few sellers but also few buyers. During the last twenty-five years the organization of retailing in this country has been passing through a revolution, as a result of which numbers of small retailers have been replaced by large organizations which, in order to be large, are also territorially integrated. But the price competition which resulted at the retail level has brought forth efforts on the part of manufacturers to protect themselves from the direct or indirect pressure of price competition at the retail stage. In some industries such as oil, manufacturers have become integrated through to the retail level. In others, manufacturers have sought (in their own interest, or under pressure from that section of retailers which fears that it is about to be superseded) indirect methods of integration, more particularly through resale price maintenance contracts.

From the point of view of social control, the major question is why a law aiming at the suppression of restraint of trade and monopolies has failed to place an effective barrier in the way of many of the foregoing tendencies generated by the industrial process of production.

The most fundamental reason for the considerable measure of failure of efforts to erect such a barrier lies in the inadequacy of the economic theory underlying the legislation. Theoretically, perfect competition results in the ideal allocation of resources among uses; in a general tendency for costs to cover only the costs of the most efficient firm in the long run, and for full

capacity to be utilized except when the resulting prices fail to cover marginal costs of production. But the theory is internally contradictory in some circumstances. The lowest cost may be achieved only by firms so large that they are too few to behave competitively. A choice must then be made between (1) firms of the most efficient size but operating under conditions where there is inadequate pressure to compel the firms to continue to be efficient and pass on to the consumer the benefits of efficiency and (2) a system in which the firms are numerous enough to be competitive but too small to be efficient. The courts faced with this choice have been either unwilling or unable to decide between the two horns of the dilemma. The dictum in the United States Steel Corporation case that "mere size is no offense" seems to rest upon a choice of efficiency with whatever size it may involve. Irrespective of the facts in the case regarding the most efficient size for the corporation, the court was unwilling to obstruct businessmen in the pursuit of efficiency, whatever the result as to the competitiveness of the market.

Furthermore, had the courts been willing to choose the other horn of the dilemma, namely the maintenance of enough firms to insure competition, they would have faced further difficulties in the solution of which they would not have found economists very helpful. More particularly, the number of firms necessary for the maintenance of competition is a problem that has never been satisfactorily solved, and a firm operating under a ceiling as to size cannot be expected to be fully competitive.

Facing these difficulties, the courts have been unwilling to interfere where they could find plausible reasons for keeping out of complicated difficulties. They have often made their choice as to whether or not to interfere on the basis of a judgment of the motives of businessmen. The reason for this attitude lies largely in the belief that if the market tactics or merger policies under review seem to them to be aimed at the elimination of rivals as a means to attaining a monopoly, or where there is direct evidence of such motive, interference is unlikely to impede efforts to attain efficiency. The fact that some of the prosecutions have been under the criminal clauses of the law tends, for reasons of legal tradition, to place emphasis on the motives of those under indictment. While this policy is not in itself unreasonable, it has two fundamental defects impeding the attainment of competition. First, the determination of motive is extremely difficult and, in actual market situations, may be almost impossible. Second, motive itself is, from the economic point of view, secondary. Those who desire to see the antitrust laws enforced aim ultimately at the maintenance of a competitive structure whether it is threatened by people whose motives are good or bad.

Where oligopoly already exists, economic conditions have not by their nature compelled competitive behavior. The effort to maintain competitive behavior under these conditions seems to be doomed to failure. If businessmen choose price leadership as a means of avoiding price competition, no legal device has yet been discovered by which leadership can be prevented, except perhaps where it is based on collusion. There is no form of decree that can be addressed to a leader by which he can be prevented from being accepted as a leader. It would be more appropriate to address such a decree to

the price followers. But a decree preventing them from charging the same price as the biggest firm in the industry would not be feasible, and might also be rejected as unconstitutional. The same difficulties attend efforts to eliminate basing point systems. The firms in an industry may be ordered to cease and desist from the use of such a system, and possibly the non-base producer may be compelled to adopt a base price of his own. But it is not feasible to determine the height of his base price which, in fact, determines how nearly he remains a non-base producer. The requirement that producers sell to all buyers as a production point at a uniform mill price may eliminate competition by interpenetration of market territories but it remains to be seen whether competition in mill prices will be intensified, whether such prices will be lower than under a basing point system and the extent to which the delivered price of the product may be higher when demand in the vicinity of a producing point exceeds the capacity there. Economists have not been able to suggest any generally acceptable territorial pattern of prices.

Similar difficulties attend efforts to attack another important policy that has emerged from oligopoly, namely the price set and maintained at a stable level for considerable periods of time. Decrees to compel firms to change their prices from time to time are hardly feasible, because of the necessity for prescribing the frequency, and presumably also the amount of change that will comply with the requirements of the court. Here again the economist has been unable to establish criteria which would give the courts confidence in making such decrees.

If the courts do not accept monopoly or oligopoly, they are then faced with the necessity for determining the number of firms to be maintained in order to remove these conditions. In the past, they have from time to time broken up the almost single-firm monopoly but largely because they were persuaded that these monopolies had been achieved, not as the result of a quest for efficiency, but rather in the effort to achieve control of the market. Even so, they have never done more than replace almost unitary monopoly with oligopoly. If they did seek to eliminate oligopoly, they would encounter the difficulties already mentioned concerning the criteria as to the number of firms necessary for competition.

The courts have also been somewhat confused by repeated, and generally truthful, statements by business that it faces considerable competition. The difficulty here lies in the fact that competition or rivalry can take a great variety of forms ranging from the physical destruction of a rival's plant or products to pure price competition. Each of the available types of competition has its own peculiar consequences, some of them varying according to the nature of the industry. Only pure price competition can produce the results which most people have in mind when they defend what they call in general terms "the competitive system." Non-price competition by way of product differentiation and sales promotion operates to increase costs rather than reduce prices. But consumers may benefit to some extent from increased expenditures, particularly on product differentiation or quality competition. Consequently, judgment of these types of competition is extremely difficult. Here again the economist is unable to be very helpful to the court because

typically where an oligopoly engages in product differentiation and service competition, the buyer has no choice as between various combinations of price, quality, service, and the like.

The foregoing does not mean that the antitrust laws have had no effect. It is customary to say that they must have had some preventive effect. The probabilities are that this statement is true, although by its nature it is unprovable. Consequently, no measure of the preventive effect can be available.

The recent modifications of the antitrust laws give considerable general support to the court in its extremely cautious attitude regarding the disturbance of existing business structures and market behavior. The legalization of resale price maintenance provides an opportunity for businessmen to prevent price competition at retail. The court is justified, therefore, in believing that Congress is not determined to maintain price competition wherever it may occur and in this case in the market for consumers goods. State legislation imposing discriminatory taxes on chain stores can be interpreted by the courts as an indication that at least the state legislators are not in all circumstances ready to permit reorganizations of business producing greater efficiency as measured by costs. The Robinson-Patman Act regarding price discrimination rests in the main upon criteria of price discrimination drawn from much economic writing. Here again the courts must realize that this legislation is a part of the struggle between the older and newer organizations in distribution in which the older group sought protection from the state presumably because it was not prepared to rely on the outcome of competition. It is stated, however, that in these circumstances competition is not likely to produce the most desirable results because the very large buyer obtains advantages accruing not only from his cost-reducing opportunities but also from his market-control opportunities. While there may be truth in this statement, it has never been very satisfactorily documented and in practice it is almost impossible to draw a line between the two sources of possible price reduction.

Frank Albert Fetter*

Princeton University

In the tug of war between competition and monopoly in the United States, "the free competitive system" has on the whole, I fear, lost ground, but the end is not yet.

Among the influences tending to make the antitrust laws relatively ineffective are: the fundamental change in the business corporation laws beginning about the time of the passage of the Sherman Act, whereby it became legal for one corporation to acquire and hold the stock of another corporation,

* Dr. Fetter, professor emeritus of political economy at Princeton, died on March 21, 1949. Consequently, his part in this symposium constitutes the last of his many distinguished contributions to scholarly literature on the federal antitrust laws and their enforcement.

thereby pretty effectively defeating the purpose of that act; the approval by the courts of this mode of whittling away and destroying competition definitively in large sectors of the economy; the consequent limitation of the Sherman Act to the prosecution of explicit agreements in restraint of commerce, with the result, as has been repeatedly shown, of putting a premium on absolute merger, the most complete mode of abolishing competition; vague and ambiguous terms in the antitrust laws which, it matters not how they came to be there, have long been an insuperable obstacle to enforcement; the neglect by Congress to seek much needed aid of a technical nature in the framing of economic legislation; the pressure of organized special interests and skilled lobbyists in such legislation; the expenditure by corporations of lavish sums to defeat the enforcement of the antitrust laws, sums much greater than those spent by the government in their enforcement; and the extensive employment of academic economists in defense of monopoly. These are simply the main counts in the explanation of the relative inefficiency of the antitrust laws.

The most noteworthy influences tending to enlarge the possibility of free competition have been the utility investigation in the 'thirties; the holding company act; the creation and operation of the Security Exchange Commission; the more vigorous enforcement of the Sherman Act begun by Thurman Arnold and continued by his successors; the increased insight of the Supreme Court into the economic aspects of the problem; the recent basing point decisions; the activities of the Federal Trade Commission; and the awakened public realization that "a pervasively competitive economic system" is alone compatible in the long run with political freedom. This proposition is at least given lip service by many who still are striving to retain and increase monopoly control in their own industries, and thus are helping to dig the grave of a truly democratic capitalism.

We are listening to a great deal of naïve hypocrisy about the need to preserve our perfect system of free competition. Concentrated control has already gone far and is going farther.

Theodore J. Kreps

Stanford University

I am disposed on balance to agree that the antitrust laws, as interpreted and enforced, have neither stopped business aggrandizement nor preserved, in so far as it existed, a "broadly competitive system." I doubt whether by themselves they could have done so, even had they been fully enforced. It is certain that the amount of monopoly, whatever that may mean, is not less now than in 1890.

The antitrust laws probably have had more of a prophylactic than a remedial effect. The onward sweep of technological agglomeration has not been delayed. To avoid the risk and cost of antitrust litigation businessmen may, on occasion, have reluctantly dropped or modified highly cherished

plans or operations. No doubt the extra ingenuity required to revise old methods or devise new ones has been irksome. Even when they achieved their ultimate goal and purpose, they resented the fancied or real interposition of legal obstacles. A small but important percentage has been annoyed. Thus, periodically there has come into public print a rash of complaints about "vague uncertainties" in the act, lack of "positive definition," "arbitrary" enforcement activity, "unpredictable" court demarcations of the scope of the law, and the like.

But, by and large, most businessmen—that is, all but a small fraction of our 3,500,000 enterprises—have always realized that nothing in the antitrust laws forbade vigorous, independent competition. Like good pilots who safely bring their ships into port by knowing where the deep water is, the conscientious businessmen have not needed nor asked for blueprints mapping out every shoal of "non-permissible practice." They have simply gone ahead competing vigorously for customer patronage.

The squeaking axle, however, naturally gets the grease. Overwhelming in number as were the competing enterprisers, many of them operating on a large scale, the proportion of output produced, transported, and distributed by them was not commensurately large. Steadily in one industry after another, technological and financial giants captured more and more of the market. The few "million-dollar-trusts" that scared the public in 1890 look like pigmies now alongside the famous "two hundred" spotlighted by Berle and Means or the half a hundred or more billionaire corporations that dominate finance and industry today.

Such giants are not only found in banking, insurance, railways, public utilities and natural monopolies. Whatever may be the causes—technological efficiency, high finance, two World Wars, or what have you—more than a third of the total value of all products even in the field of manufacturing is produced in industries where the four largest producers account for over 75 per cent of national output. Almost another third is produced in industries where the four largest firms account for more than half, though less than three-fourths of total production. Nor is the movement limited to basic industries. Recent studies of mergers by the Federal Trade Commission document a widespread "swallowing up" of independent competitors in the textile, food, and distributive trades.

Clearly the antitrust laws have not preserved competition. In fact, it is doubtful whether during most of the period since 1890 Congress has actively so desired. While its oratory has been "agin monopoly," its acts have steadily exempted one industry or practice after another from compliance; farm marketing associations, labor unions, shipping, banking, etc. The legalization of price-fixing in the Miller-Tydings Act and the *carte blanche* given to railway executives in the Bulwinkle Act are but recent flagrant examples. But for the election upset, legalization of basing point and formula pricing and/or exemption of insurance executives might have come next.

Despite a quarter of a century of reiterated pleading from its Federal Trade Commission to close the loopholes in Sections 7 and 11 of the Clayton Act, Congress has done nothing to prevent merger by sale of assets. No

hindrance has been placed upon vertical and lateral integration. The "gobbling up" of competitors ravages on unchecked.

Congress has disregarded all suggestions to strengthen the law. One of its more important investigating bodies, the Temporary National Economic Committee, thoroughly examined and documented the case for many much needed improvements. It urged a statute imposing civil penalties which would deprive a monopoly of its monopolistic gains. This would have eliminated the humiliating spectacle presented in the Hartford-Empire case wherein the Supreme Court found flagrant abuse of patent privileges but felt constrained to let the violator in effect "keep the swag."

Congress has similarly failed to act on a number of bills, presented by such intelligent and far-sighted statesmen as Senator Joseph C. O'Mahoney of Wyoming, which would put teeth into the antitrust laws. Instead of the present piffling penalties, which are so low as to constitute at most a good business risk, Congress has refused to authorize fines on individuals and corporations that would genuinely deter deliberate and repeated violation—fines equalling, for example, half or more of the net profits earned by the corporation, or salary earned by the persons, during the period it was, or they were, violating the law. Some have suggested penalties upon convicted executives barring any organization in which they hold a responsible executive position from obtaining governmental aid, subsidies, tariffs, patent grants, purchase contracts, mediation or other benefits. Congress has not considered the matter.

Likewise, Congress has not required the registration of international cartel agreements. Were there a sanguine interest in devising means of buttressing the antitrust laws, there might have been resort to a number of other expedients such as taking the tariff off commodities produced under "conditions of oligopoly and monopoly," repealing the Webb-Pomerene Act, ratifying the ITO charter, revising the patent laws so as to prevent monopolistic abuses, fostering and mobilizing technological research nationally, and inaugurating a program of aid to small and new business. Such a program might be similar to that now operating in the field of agriculture, a program of diffusion of information, research and technical assistance, financial backing, and appropriately modified taxation. To all such proposals Congress has thus far turned a deaf ear.

Until recently the courts have also done their share in impairing the vigor of the antitrust laws. By emphasizing legalisms such as formal proof of "meeting of minds," they have struck down weaker and sometimes innocuous types of agreement between independent producers while giving a clean bill of health to corporate giants by such judicial inventions as the "rule of reason," and doctrines that "mere size is no offense" and "not existence but abuse of monopoly power must be proved." Thus a colossus such as the Aluminum Corporation of America, the classic example of monopoly, was allowed without even the initiation of government complaint (until 1937) to "stabilize prices," "adjust production to consumption" and "prevent market demoralization and chaos," while scores of tenuous arrangements between small producers in

and out of trade associations were struck down as conspiracies in restraint of trade.

The record of emasculation in *U.S. v. E. C. Knight Co.*, *Standard Oil Co. v. U.S.* (1911), *U.S. v. United States Steel Corporation* (1920), *Arrow-Hart and Hegeman Electric Co. v. Federal Trade Commission*, and similar cases is well known. Fortunately the record has been conspicuously improved in recent years by such notable decisions strengthening the antitrust laws as *Morton Salt Co. v. G. S. Suppiger Co.*, *U. S. v. Aluminum Corporation of America*, and in particular the opinion of Justice Burton in *American Tobacco Co. v. United States* (66 Supreme Court 1125, U.S. 1946). This case, according to Professor Rostow in his *National Policy for the Oil Industry* (p. 137), clearly means that henceforth

Painstaking search for scraps of evidence with a conspiratorial atmosphere are (*sic*) no longer necessary. . . . Under the Tobacco case, the economic fact of monopoly is very close to being the legal proof of monopoly. . . . Parallel action, price leadership, a reliance on advertising rather than price competition as a means of inducing changes in each seller's share of the market and, above all, size—the market position of a small number of large sellers or buyers—these are now key points to be proved in a case of monopoly, or of combination in restraint of trade. . . . The decisive elements are the power to assert a degree of control over price and output in the market as a whole, and the power to deter or discourage potential competition.

Future decisions of the Supreme Court, may, of course, depart widely from the direction and outlines of Professor Rostow's interpretation, but if they do not, the impact of the antitrust laws upon monopoly may be substantial.

On the administrative side, except for the sincere and brilliant efforts of Thurman Arnold and Wendell Berge (under whose administrations more cases were filed and won than in the entire remaining lifetime of the antitrust act), over-all enforcement of the antitrust laws has been conspicuously weak. The federal government has been a policeman who looked the other way.

At no time have appropriations been remotely commensurate with the job to be done, nor have they ever been asked for. Even in 1939, the Anti-Trust Division spent less than \$800,000 and the Federal Trade Commission slightly less than \$2,200,000. In 1946, the sum-total appropriated for these agencies was still under four million dollars. A nation that spent more than 100 billion dollars in one year to defend its system of free enterprise against a foreign enemy devotes to protecting the system against monopoly less than enough to have financed its war effort for 25 minutes.

No wonder antitrust cases have not been pushed through with speed. In 1946, a sample of 41 out of 435 cases filed in the eight years from 1937-1945 showed four had been pending for more than seven years, and six for more than five years. Even the Federal Trade Commission which was given administrative powers precisely so that justice might be dispensed with dispatch, often requires over three years and has been known to take as long as eight years to push its cases to completion.

Coupled with lack of money, the major reason for these shortcomings is insufficient personnel not only in numbers but in competence. Both political

parties have observed long since that the persons likely to run afoul the anti-trust laws are not the ordinary socially ostracized criminals but rather the more respectable, powerful and wealthy businessmen, those most likely to command not only dollars but newspapers and votes, and often indeed Congressmen. Zeal, initiative and resourcefulness in enforcing the antitrust laws are likely to be much more embarrassing virtues in an administrator than obsequious caution, meticulous solicitude for congressional and public relations, and indefatigable insistence that every protection of procedure or evidence be given the defendant.

Because of such stultification, particularly when intensified by witch hunts and by business-fomented contempt for "bureaucrats" and "tax eaters," lawyers and economists of integrity, objectivity and vigorous independence of thought usually prefer almost any type of employment to working for government. Those who plan to use government service as a stepping stone soon discover that skill and productivity in developing civil suits and criminal indictments (and what's worse, ability to make them stick) are qualities not highly conducive to making the "right friends" and influencing the "right people."

The effective and conscientious lawyer or division chief in antitrust agencies may find himself somewhat alone—first of all, in court. In the cement case there were three FTC attorneys pitted against 41 of the largest and most successful law firms in the country. In the Madison Oil case there were five for the government against 103 protectors of oil. Higher government echelons, moreover, may not be grateful for his contribution to their administrative headaches. He is also likely not to receive invitations to participate in those numerous important informal government-business policy get-togethers so indispensable to intelligent law-making and cooperative, effective administration. He thus finds antitrust activity to be attended with some measure of risk of damage to his reputation and career. These factors (plus in some cases social coventry or failure to "make" important social affairs given by the "best people" and higher-ups) cause high turnover of conscientious personnel at lower levels, while those too important to be let go even with a transparently flattering letter are often "kicked upstairs," sometimes graduated into judicial eminence.

There are, of course, a large number for whom government service is just a job. If they were too naïve to have realized the fact in advance, they soon learn that a high reputation among businessmen for constructive and understanding public service usually is acquired by excelling in those government activities through which favors are ladled out. It's a much shorter step into lucrative business posts and honorific university assignments from a War Production Board, Reconstruction Finance Corporation, or the Departments of War, Navy, Commerce, and State than it is from antitrust. Consequently, those who are ambitious and, needless to say, those content with a long, serene career in regulatory agencies, wisely follow the tactic of being spineless chair-warmers, never "sticking out their necks."

Even if personnel in the antitrust agencies feel sufficiently rewarded for their industrious activity by the consciousness of arduous duty done, there

are those in other governmental departments who do not fully share the glow. Violators of the antitrust laws often find many a sympathetic shoulder there to cry on. I know of no instance in which because of difficulties with antitrust, businessmen ever lost out on a government contract, research grant, subsidy, tariff or other favor. In some cases they have been given not only effective support but active assistance in building political backfires at both ends of Pennsylvania Avenue.

In too many instances such treatment of antitrust (as a competitor in the classical sense; one with whom one has no friendly dealings) is due not merely to normal bureaucratic preoccupation with intra-agency problems and inter-agency knifing. It also stems from the fact that Congress has imposed responsibilities the discharge of which is made difficult, if not impossible, except by "playing ball" with enterprises so large as to be enmeshed in practices contrary to the antitrust laws. During the war procurement officials would have been helpless without the active cooperation of big businesses. To whom else could research funds be allocated? In short, there are sometimes goals superior to uncompromising enforcement of the antitrust laws.

Precisely because "nobody loves the cop," antitrust agencies prefer to initiate cases on the basis of complaints. While only a fraction are acted upon, such cases are not only most likely to be easiest to win but to be most productive of political support and larger appropriations, with subsequent policing of the outlawed practice automatically enforced by business itself.

Unfortunately, there are many instances in which businessmen, all of them by no means small, are afraid to complain or refuse to testify and provide evidence, or do so only after making pitifully certain that guarantees of secrecy and anonymity are adequate. Monopolistic practices in such cases are often precisely the most vicious and strong. What can the administrator do? Forget about it? Challenge the powerful industrial police system? Or find a face-saving formula?

The most palatable solution is, of course, a maximum appearance of enforcement with minimum actual alteration in highly profitable practice. Hence the emphasis on legal victories which look good in annual reports and budget hearings, even though many are almost completely empty so far as the actual breaking up of a monopoly or the elimination in reality of that which was achieved by a monopolistic practice is concerned. It may be acute fear of making this discovery that accounts for the happenstance that none of the antitrust agencies has ever systematically followed up its cases to find out how far actual business operations had been changed. Frequently the only result, as Professor Rostow has indicated in the Socony-Vacuum and Ethyl Gasoline cases, is the invention of substitute legal devices leaving the basic monopolistic economic activity undisturbed.

It is easy to exhort the antitrust agencies to cut loose from the political support of those who dare to complain, and urge it to spend its limited funds for systematic surveys of concentration of economic power, industry by industry, and then to proceed to take action against the most important areas of concentration even though not a single congressman or other representative of the government has received a single complaint. It is easy to

find fault with antitrust for accepting pleas of *nolo contendere* and consent decrees, rather than fighting dissolution suits through to Supreme Court determination. The power of pressure groups being what it is, it is also futile.

In the organic sense of the term there is but little genuine support for enforcement of the antitrust laws. Certainly, buyers like competition among their sellers and *vice versa*. But it is not enough that a person want the antitrust laws enforced against other people. Does he support enforcement against himself and others in his industry? Or does he know a hundred and one reasons why monopolistic practices, while evil elsewhere, are nonexistent or harmless in *his* business? If the latter case, he cannot be said to oppose monopoly any more than a person who believes that all prices except his own are too high can be said to oppose inflation. Such groups—farm organizations, labor unions, retailers, manufacturers' associations, etc.—in short, all groups that tolerate only so much competition as they cannot prevent, believe, in effect, neither in the antitrust laws nor in free enterprise. They abet and foster monopoly and inflation.

Yet a coordinated policy designed to preserve and enlarge that which remains of a "broadly competitive economy" requires coordinated action throughout business, labor, agriculture, and government. President Roosevelt in his message on the TNEC, Senators O'Mahoney, Kefauver, Kilgore, and Morse in a series of antimonopoly bills, The Twentieth Century Fund in its studies on cartels and competition—these point the road most likely to achieve the goals of the Sherman Act.

For such a coordinated attack on monopoly, the first requirement is a coordinated, flexible adaptation of policy and tactics to over-all economic conditions and needs, which in turn requires a full-fledged Bureau of Industrial Economics serving as an economic intelligence agency for government as a whole. In a TNEC monograph on *Measurement of Social Performance of Business* I have suggested some vital functions and activities for such an agency, emphasized the indispensability of information, corporation by corporation, if a beginning is to be made toward successful enforcement of the antitrust laws. I have also outlined some rudimentary though as yet unsatisfactory methods for making a social audit of the performance not only of individual industries but of particular business corporations. The important fact, then as now, it seems to me, is not the size or number of producers but their social performance. It is not competition *per se*, but the benefits of competition, that is, maximum freedom of enterprise including freedom from the fear of abundance, maximum production at minimum real costs and prices, maximum real income and employment. What is the pattern of performance of the industry or business as a whole?

Such information is rarely sought and never presented, unless it should happen to buttress a particular point in the briefs of litigants in antitrust cases. Nor ought one to expect that it would be. Similarly the antitrust laws cannot be expected to provide the entire solution, or even a major portion. The unending fight to preserve as much as feasible of a democratically controlled, free enterprise economy is everybody's job, a continual struggle.

in which every agency of business, labor and government must do its part. Not merely the antitrust laws and agencies but all of us are responsible for failure to "protect and preserve a broadly competitive system."

Edward H. Levi

University of Chicago Law School

I think there are three principal reasons for the relative ineffectiveness of the antitrust laws:

1. The courts are not sufficiently aware of the monopoly problem. As an aspect of this, the courts have not sufficiently considered size rather than the abuse of monopoly position to be the violation of the law. And as another aspect of this, they have tended to think that a finding of violation and an injunction against further monopolistic actions constitute sufficient relief. I believe that this point is the result of points (2) and (3).

2. The Department of Justice has never had a sufficiently sustained and energetic policy of enforcement. Enforcement is sporadic; vigorous enforcement is branded as witch hunting and is followed by a "period of reasonableness." One result of this is that the courts are not forced to face the problems of size in monopoly. Because there are so few monopoly cases, the courts are relatively uninformed as to economic conditions in key industries and the law itself does not develop as rapidly as it would if more cases were brought. Enormous gaps in the law are permitted to remain and this makes it much easier to have an ineffective enforcement policy.

3. Economists in general, I think, must bear a great share of the blame. The general impression of the public is that monopoly is inevitable and since it is inevitable, it is silly to try to prevent it. A variation of this is the popular opinion that it is childish to be against monopoly (perhaps because it is inevitable) and that, therefore, a monopoly cannot be said to be "bad" or a violation. In other words, I think economists have failed to distinguish between descriptions of our present economy and analyses of what can or ought to be done. Thus, even critical essays on the present state of the economy become a basis for a weak enforcement policy and for a lack of understanding on the part of the courts.

Ben W. Lewis

Oberlin College

In my judgment, the antitrust laws have made our economy much more competitive than it would have been in their absence. Furthermore, they can continue indefinitely to be so employed as to preserve a condition of more vigorous competition than we could otherwise hope to enjoy. On the other hand, the conditions of their application have been such as to make them less effective through the years and at present than they might have been. Some

of these conditions can be improved. I have come to believe, however, that the basic purpose we have sought to achieve through the antitrust laws is inherently incapable of accomplishment; that these laws now represent a rear-guard (albeit, a very important rear-guard) action; and that in the years ahead a considerable and increasing portion of our economy will come to be controlled through conscious public action (probably public enterprise) rather than by the "automatic" processes of competition bolstered by the Sherman Law.³

We are capable of doing a better job with the antitrust laws than we have done in the past. Probably they need statutory strengthening along the lines suggested by Messrs. Kefauver and Watkins at the December, 1947 meetings of the American Economic Association (see *Papers and Proceedings* of the Association, May, 1948, pp. 182-202; 204-8;⁴ certainly the Anti-Trust Division needs more funds than Congress has ever yet seen fit to appropriate; and above all else enforcement of the laws stands to gain from any increase in public support, executive drive and judicial understanding that can possibly be developed.

But even if these measures should all be brought about—which I very much hope and very much doubt will be the case—it is my belief that the antitrust laws are inherently incapable of maintaining really effective competition. The *real* difficulty—the *basic* difficulty—in their application and enforcement is not to be corrected by statutes, appropriations or sentiment, sympathy and eagerness. It is simply not to be corrected—period.

The Sherman Act was put on the books in 1890; in 1948 we haven't the foggiest notion of the meaning of the Sherman Law as it relates to the prime organizational problem that has confronted our economy throughout the full life of the law—large-scale corporate industry. We are still playing guessing games with the Supreme Court. But, while it is easy to lay the blame at the door of the Supreme Court, I will suggest that if the Court has failed at any time to express accurately the intent of Congress, it has always been within the formal competence of Congress to change the law in line with its desires. But Congress has had no precise mandate or direction from the American public; and the public, in turn, has been given nothing but the most confusing advice from its technical experts—its professional economists. It's a tough problem—inherently tough—and just possibly the real reason why the interpretation and application of the Sherman Law is still muddled and uncertain (and is likely to remain in that state) lies in this fact.

It is my belief that "free enterprise," as an economic system, is breaking up. The most we can expect from the antitrust laws is that they will make the break-up and the transition easier to bear. I want better laws, better enforced; but no revision of the laws, no additional appropriations, and no hypo-shots of zeal in enforcement will be capable, in my judgment, of bolstering competition

³ It may be, of course, that factors and forces other than the failure of the antitrust laws will operate more powerfully and immediately to produce this result.

⁴ I participated in the discussion in question, and with the permission of the secretary of the Association use some of the material which I presented and which appears in the *Am. Econ. Rev., Papers and Proceedings*, Vol. XXXVIII, No. 2 (May, 1948), pp. 211-14.

sufficiently to warrant permanent reliance upon it as the central organizing and regulating force in our economic system. The way is effectively and permanently barred by the presence—the increasing presence—of large-scale industrial, marketing and labor units. We will not reduce their scale in any significant measure.

I do not argue that competition is absent from our economy; it is present and at times it may break out fiercely in the most unexpected places. But it occurs systematically and regularly only in a narrowing area; elsewhere it appears only spasmodically, when someone feels that, as a matter of policy or strategy, a spot of competition would be worth trying. This I believe will continue inevitably to be the case, conspicuously, in the basic, mass-production industries. It is quite true that many people and many firms are engaged in competitive activities, but the kind and extent of their competitive maneuvers are determined by the management of powerful industrial units who are largely free to indulge in as much or as little competition as they see fit. It is "cold competition," a game, without compulsions either in the event or in timing. Anti-Trust can annoy, but it cannot compel a systematic course of competitive conduct. Competition today is sporadic in its operation and unpredictable in its effects. It simply is not present in a form and degree that will justify continuing confidence in its capacity to perform the highly important duties which the logic of free enterprise requires it to discharge.

Competition has not been supplanted by complete monopolies engaged in spectacularly evil conduct; what we face is the quite undramatic development of conditions, short of monopoly, under which competition as a regulatory force is being rendered ineffective. Important economic decisions are not ground out by impersonal competitive exchange in an open and driving market; they are made quite personally, by men—relatively few men—whom we do not choose and over whom we have only the most tenuous controls. "Free enterprise" as we know it, and as we shall continue to know it until we harness it by forces stronger than any competition we can conjure up and sustain, is *really free!*⁵

Granted that many present-day corporations and corporate empires have been expanded beyond any point that can be defended on grounds of pro-

⁵ The exact extent and degree of competition obtaining at any time in any industry, and the exact point at which competition in particular situations, or generally, becomes ineffective, are not matters of precise factual measurement. Answers here must be in the nature of value judgments. Obviously, these judgments do not occur in an atmosphere barren of facts. Facts bearing on the nature, causes and extent of industrial concentration (intra- and inter-firm), the determinants and limits of managerial policy decisions, the nature of business and financial practices and arrangements, the nature and effects of public policies—all of these contribute to the complex out of which the value judgment emerges.

In my own case, for instance, I am moved by the kinds of industrial, financial and marketing situations and arrangements analyzed in such studies as T.N.E.C. Monograph No. 21, those set forth over the years in Anti-Trust and F.T.C. proceedings, and those familiar to all of us who had an opportunity in connection with our N.R.A. and O.P.A. duties to review industrial policies and practices. None of this impresses me as "sensational," nor does any of it seem to me to "demand" immediate drastic public action; none the less, for me, it adds up to the convictions expressed in this paper. I am very much aware, however, that these convictions are value judgments.

ductive efficiency, I still believe that they cannot be reduced and broken up sufficiently to insure effective competition without exacting a greater price than we shall be willing to pay. The scale of industrial and marketing operations required to support us in the style to which we have (or should) become accustomed is still so large as to render the resulting "competition" quite undependable as the regulator of our economy. I can easily believe that technological developments now foreseeable by those with vision may in some industries make possible the attainment of optimum productive efficiency at scales of operation less extended than those currently thought necessary.⁶ I hope they do. When it happens, I'll believe it. Until it happens, however, I am not willing to alter either my predictions or the policy conclusions which those predictions seem to me to establish. The scaling down of hitherto large-scale industry may come about in certain instances as the natural result of technological innovations, but the movement has certainly not yet begun in strength, and we would be quite ill-advised to force such a break-up indiscriminately across the industrial front by starry-eyed governmental action taken in anticipation of innovations which as yet are only guesses.

Recently it has been sought to inject realism into inquiries concerning the effectiveness of the antitrust laws by directing attention to the concept of "workable" competition. Competition in the actual world is recognized as being less perfect and precise in its operation than the unrealistic, classical, class-room concept of "pure" competition, but it is thought, nonetheless, to be doing quite capably the promotive and regulatory job which under the logic of "free enterprise" it is supposed to do. It works! The exact bounds and content of workable competition have not been authoritatively determined and defined, but it is suggested that competition is probably present and "working" in an economy such as ours which is characterized generally by progressive technology reflected in lowering prices, increasing output and new and improved products. The point is made that in appraising the effectiveness of competition we should not look to form and structure (the number and size of firms in the several markets, *i.e.*, the degree of "concentration"), but, rather, to market results. If prices, and the kind, quantity and quality of products are satisfactory, then competition is satisfactory; it is working. The conclusion seems to be that competition is "working" throughout most of our economy.

I am willing to accept considerable leeway and tolerance in the operation of competition (or any other regulatory force, for that matter), but I am not willing to judge its effectiveness or to decide whether or not it is workable and working solely or even largely on the basis of "results." Prices have been lowered, output is large, and there have been innovation and improve-

⁶ See G. M. Blair, "Technology and Size," *Am. Econ. Rev., Papers and Proceedings*, May, 1948, pp. 121-52.

⁷ E. S. Mason talks of workable competition in his contribution to this symposium and in his paper, "Competition, Price Policy and High Level Stability," at pp. 19-31 of *Pricing Problems and the Stabilization of Prosperity* (1947) published by the United States Chamber of Commerce. See, also, J. M. Clark, "Toward a Concept of Workable Competition," at pp. 452-76 of *Readings in the Social Control of Industry* (Blakiston, 1942).

ment in techniques and goods. But, unfortunately, these results do not tell the story. Results alone, throw no light on the really significant question: have these results been *compelled* by the system—by *competition*—or do they represent simply the dispensations of managements which, with a wide latitude of policy choices at their disposal, happened for the moment to be benevolent or “smart”? This points up the real issue. The answer is of the very greatest moment for the future of our economy, and in seeking the answer the matter of form and structure (the degree of industrial concentration) is of foremost importance.

I will concede quite readily that we may enjoy immediately satisfactory prices and output even though competition is not perfect; indeed, I will go further. We may enjoy immediately satisfactory results even though competition is not “working,” if the persons who make decisions are willing, in their wisdom or benevolence, to permit such results to trickle down. The absence of identifiable extortion or restriction does not, by itself, establish the presence of effective competition. For competition to be effective or workable, or even acceptable, in any significant, lasting sense, it must not only permit, *it must compel the results we want by the necessary and continuing operation of its processes*. The array of price and output policies from which managements are free to choose must be strictly limited. Satisfactory results which happen but which, equally, might not have happened are not good evidence of the successful working of an economic system or of competition as an integral part of an economic system. The *process* by which results are achieved and assured is the very essence of an economic *system*. As a consumer I like low prices, but to me competition is not “working” in an industry whose individual firms are powerful enough to hold prices down in the face of a general inflation. The immediate result is welcome, but I want the decision on prices to be made by society—either through the compelling forces of a competitive market or, if competition is not sufficiently workable to compel the decision (or the decision we want), then by action of a responsible government.

The key to the effectiveness of competition is to be found in its power systematically and predictably to compel economic decisions, and I do not believe that any such power or force characterizes the competition present in industries composed of, or dominated by, either a single firm or a few large firms. Such firms have the power to select their price and output policies from a wide range of possible action; neither competition nor any other force or combination of forces restrains or compels their choices except, at best, at the outermost limits. They are possessed, as well, of power to increase their defences against competition and to protect their positions. To speak of *potential* competition as a compelling regulatory force in this situation is to be blind to the strength of the factors that retard and will continue to retard the drive of potential competition to become actual competition.

Some indication of the looseness of the regulatory force of competition in mass production industry is to be found in the exhortations increasingly being delivered by economists, public officials and “enlightened” business leaders, urging managements to shape their price, output, wage and invest-

ment policies in accordance with long-run, over-all social considerations: increased purchasing power and consumption, full employment, an economy of plenty, etc. If competition, actual or potential, were really effective, these exhortations would be quite uncalled for and wholly useless. Need I add that as a prime regulatory instrument in our economy exhortations would seem to leave much to be desired? Something more certain in its promise and compelling in its force than an appeal to the good will and social consciousness of business leaders is called for in economic situations where sound criteria of individual and corporate gain run directly counter to sound criteria of general economic welfare.

Although the present discussion relates primarily to antitrust and industry, it is pertinent to note that developments corresponding to those in industry are under way in labor and agriculture. None of these is likely to be reversed. It could be, of course, that these groups will come to serve as checks upon each other, and that our economy in its movement away from dependence upon individual self-interest and competition will sometime emerge as a society of "responsible men" balanced in "responsible groups."⁸ I note still another major development, however—big government—and my own *guess* is that we shall come increasingly to rely upon government (*i.e.*, upon ourselves in our collective *governmental* rather than our *economic group* capacity) to perform the economic tasks hitherto assigned to competition. Nor am I particularly disturbed by this; personally, I am not fearful of the democratic process and I do not doubt its ability to maintain its democratic character.

A final point, involving a different meaning for the term "workable": is competition any less "effective" than it needs to be in order to be "workable"? The suggestion implicit in this question is that pure and perfect competition is unsuited to the physical and economic requirements of modern mass industry with its specialized capital—that managements of these firms need great leeway, need freedom from the unreasonable, nagging restraints and dictates of the kind of competition appropriate to more primitive markets. This I can believe, but it seems to me to constitute not only a convincing explanation (and excuse) for the looseness of competition, but also a confirmation of the fact of its looseness—such looseness is inherent and inevitable! The fact that managerial action must be free (and, hence, *ought* to be free) from the frustrating hand of competition means simply that under modern conditions of production and marketing the kind of competition that will work so far as individual firms are concerned is quite unworkable as the prime regulatory instrument for the economy as a whole. The freedom of action needed by modern management, if its search for individual security is to succeed, is so great that whether because we fear its misuse or because we value our self-respect, we cannot properly leave it, unrestrained, in private hands.

What we want in a democratic economy are compelling forces that will drive individual activity systematically and predictably within narrow channels named and approved by society. Social responsibility must attach to

⁸ See J. M. Clark, *Alternative to Serfdom* (Knopf, 1948).

individual economic decisions: economic decisions must be made under such conditions that lines of responsibility and control run from those materially affected by the decisions to the persons engaged in making them. Under the classical logic of free enterprise social responsibility was assured by the presence of competition; under modern conditions of mass production competition cannot, and cannot be made to, give us the assurance we need.

Let me make my indictment quite clear: I am not undertaking a shotgun attack on all of the inequities and shortcomings of our present way of economic life. Neither am I suggesting that our present way of life doesn't furnish quite a lot of us with quite a lot of relatively secure comforts. Indeed, it is part of my thesis that the economic ease which we are currently permitted to enjoy serves to insulate us from any considerable awareness of the loosening processes at work within our economy. My charge relates to the dilution and weakening of competition as a compelling regulatory force, and the consequent growth of irresponsibility in the making of economic decisions; and to the disintegration of free enterprise as a system which this development reflects. Irresponsibility as an abiding feature of an economic system is not made palatable by the fact that the power it represents is not always misused, and disintegration is no less real because it is cushioned and draped.

We need the antitrust laws, refurbished and refueled. But we shall need more—a lot more.

Irving Lipkowitz

Reynolds Metals Company, New York City

The antitrust laws are at best a negative means of promoting competition. Their province is limited to the violations of law. As a consequence, they can deal only with the wrong-doer, and only in so far as the wrong is recognized by law and satisfactory evidence against the culprit can be obtained by the law enforcement agency and presented to an appropriate court. Law enforcement by itself, no matter how broad and competent, can no more do the whole job of establishing and maintaining a competitive system than it can produce harmonious relations between labor and management.

Half a century ago, when the basic pattern of the antitrust laws was fixed, it might have been enough for government to be merely antimonopoly. Perhaps in those days the government would have had merely to eliminate the specific abuses of monopoly power in order to give competition a fair chance to develop and thrive in most industries. Whatever the situation was then, today much more than that is needed if there is to be real competition in most of the key industries. Many of the obstacles to unrestrained competition are "legal," and therefore beyond the reach of the government's antimonopoly laws and agencies.

Healthy and productive competition is a way of business life, not merely the absence of illegal monopolies. Like democracy, it must be cultivated. It does not come naturally to all businessmen and does not survive or maintain

itself with equal ease in all industries. If our economic system is to be more effectively competitive than it is now, the government will have to promote such competition by more direct and positive means than mere law enforcement.

A government agency, sufficiently endowed with authority and appropriations to attract competent personnel, should be created to promote competition. It should not be the traditional "small business" clique. All big business is not automatically monopolistic, all small business is not necessarily competitive. This procompetitive government agency would not have the responsibility for enforcing the antitrust laws. That would still be the function of the present antimonopoly agencies. However, like any other government agency, it would refer to the Department of Justice any violations of law which incidentally come to its attention.

The first task of this agency would be to find out what is the state of competition, and conversely of monopoly, in each of the important industries. Where it found that competition was weak, it would then have to decide how desirable it would be to stimulate or promote greater competition in that industry. If the decision were in favor of stimulating competition, then a thorough diagnosis would have to be made to determine the best course of action. In one case the problem might be financing, in another patent or technological pools, and in the third case the advantages which the dominant company might get from a highly effective intensive advertising campaign. In some cases this agency might find the government can do nothing to establish competition in an industry unless it is willing to subsidize some of the "competitors" ad infinitum.

At each stage in its analysis the procompetition agency should make its findings and recommendations public and understandable. If nothing else, this agency would tell the country how much or how little competition there is, in what industries, and what—if anything—could be done to improve the situation.

This agency should be left free to recommend any course of action which it deemed most practical for the particular situation. In one case it might require no more than internal rearrangements within the industry without any further government intervention. At other times this agency might find it necessary to seek special government financing for the less powerful members of an industry. Or, its program might be so drastic and the industry so important as to require Congressional review and approval. Under no circumstances should the procompetition agency be required to limit its remedies to just those which could be handled through court procedures or consent decrees.

Will such an agency be so powerful as to jeopardize free enterprise and democratic processes? No, because its power will vary from industry to industry, directly with the strength of monopoly and inversely to the degree of competition. Its decisions should be subject to review by a board of competent representative citizens which should pass on any challenged facts and on any charges that a particular recommended remedy is too harsh. How far

such an agency would be permitted to go in a particular industry would depend on how anxious the nation was to have that industry more competitive.

There are probably many different ways of achieving what the procompetition agency outlined above is intended to do. But in any case the approach must be that direct and positive. The difference between promoting competition and antitrust law enforcement is the difference between a Tennessee Valley Authority directly stimulating the greater use of electricity and a state regulatory body trying to do the same through rate-making procedures. The government should concentrate its efforts on getting an industry to do the right things more often and not confine its efforts to restraining or punishing the wrongdoers.

If the traditional antimonopoly approach is to prevail, however, then the antitrust agencies should have as broad powers and extensive facilities for watching and intercepting the flow of commerce as police departments have with respect to the flow of vehicular traffic. Lacking such powers, these agencies should not be held responsible for the defective flow of commerce.

The powers of the antitrust agencies to get essential facts about conditions in a particular industry should not be limited to the subpoena rights of a litigant. Every investigation does not presuppose a lawsuit. Moreover, the standards of proof in a monopoly case should not be the same as when a human defendant's life is at stake. In actual practice, the more powerful the monopoly, the more difficult it is to get the evidence necessary to convict it. The more dominant a monopoly is, the more reluctant businessmen are to testify against it—for fear of repercussions. An all-powerful monopoly rarely finds it necessary to lay down the law, orally or in writing, to its would-be competitors. The anomalous result is that the more evident the monopoly, the less evidence the government can obtain. Only when the monopoly lacks full control does it have to threaten and take the kind of actions which are the makings of a successful antitrust action.

The courtroom processing of antitrust cases can also be improved greatly. Specialized courts are needed, staffed with a judiciary well versed in the complexities and realities of business practice. Such judges would then be in a position to adapt the rules of evidence to accelerate the presentation of business facts without sacrificing the quality of proof.

Essentially the lack of adequate governmental machinery for guaranteeing the nation a competitive economic system reflects the indifference or hostility of both organized business and organized labor. Of course, within each industry both groups want to get the benefits of competition in other industries, but do not want to give others the benefit of competition in their own industry. Any program for making our economic system more competitive must therefore start with a campaign to get industry and labor groups to support actively specific proposals to promote competition and to make anti-monopoly drives more effective.

Edward S. Mason

Harvard University

The great difficulty in answering the question you raise lies in the interpretation one is to put on the phrase "broadly competitive economic system." There are at least two sources of confusion: (1) is competition to be understood strictly in the market sense of the term or does it also embrace considerations having to do with the structure of the *political* economy, *i.e.*, concentration of economic control?; and (2) in so far as attention is concentrated on competition in the market sense, how does one measure departures from competition, *i.e.*, the degree of monopoly.

1. When people speak of a decline of competition, they frequently are thinking of such phenomena as the rise of the large corporation and the relative decline in the importance of sectors of the economy associated with small scale enterprise, *e.g.*, agriculture, which may or may not have anything to do with competition in the market sense of the term. One way of characterizing the phenomena they have in mind is "concentration of economic control."

There are various ways concentration may be measured, each of which has its own significance. Among them is a number of employees per business unit. It is, of course, obvious that the ratio between the number of business units and number of employees is continually declining as a result of the continued shift from agricultural to industrial employment, the relatively rapid growth of sectors of industry characterized by large-scale enterprise, and the increase in the size of the optimum unit in almost all branches of industry.

There is, furthermore, little doubt that this changing ratio of number of firms to number of employees has great significance for the functioning of the *political* economy. It affects the location of political power, the character and size of pressure groups, employer-employee relationships, etc. It is certainly true that it is changing the character of American democracy and it may be true that it threatens the continued existence of democratic institutions.

But it has no necessary or even obvious connection with competition in the market sense of the term. No one has been able to show as yet that monopoly is more important in the economy than it was fifty or one hundred years ago or that competition has declined. Partly this has to do with ambiguities in the interpretation of competition and in difficulties connected with the measurement of departures from competition in whatever sense the term is used.

2. The most precise notion of competition is pure or atomistic competition but this is (a) a limiting concept in (b) a purely static analysis. Although it is possible to measure *conceptually* departures from pure competition in various ways such as ratio of price to marginal cost, ratio of actual to competitive profits, ratio of actual to competitive output, etc., each of these conceptual measures is firstly only a partial measure even on its own terms and assuming static conditions, and secondly, is not susceptible to statistical application.

Moreover, this whole conception of competition and monopoly is purely static. In the American economy new products, new techniques, new locations, changing consumer tastes, etc., are continually breaking the existing patterns of market relationships and forming new ones which in turn emerge only to be broken. How is this process to be fitted into conceptions of monopoly and competition? No one has as yet provided any satisfactory answer.

In default of answers running in terms of the degree or extent of departure from pure competition people have recently sought an answer to the question whether various industries are or are not "workably competitive." Presumably this notion fastens attention on the *results* of a particular market structure. Is the existing set-up accompanied by a progressive technology, the passing on to consumers of the results of this progressiveness in the form of lower prices, larger output, improved products, etc.? Although there is a certain attractiveness to this conception, it must be admitted that no one as yet has given it any precision. Whether a given industry is judged to be workably competitive will depend to a very substantial extent on the "ideology" of the judges. And who is to say in these terms whether the American economy is or is not more "broadly competitive" now than it was in 1890?

Whatever answer is given to this question, I believe myself that the American economy is in fact substantially more "workably competitive" than it would have been without the existence of the antitrust acts. This is due, I believe, not so much to the contribution that particular judgments have made to the restoring of competition as it is to the fact that the consideration of whether a particular course of business action may or may not be in violation of the antitrust acts is a persistent factor affecting business judgment, at least in large firms.

It is frequently stated that the greatest defects of antitrust policy are in handling the monopolistic or monopsonistic bargaining power of the large firm and the problem of mutual interdependence which may exist when a few large firms are predominant in a market. This judgment, however, usually will be found to emanate from those who have a static approach to the problem of monopoly and competition. Until it is clearer to me than it is now (a) that the large firm in the presence of manifestly dynamic influences exerts an adverse monopolistic influence on the functioning of the economy and (b) that any possible action under existing (or a modified) antitrust policy would remedy the situation, I have my fingers crossed.

Breck P. McAllister

Donovan, Leisure, Newton, Lumbard and Irvine, New York City

I would group my impressions as to the effectiveness of the antitrust laws into two quite separate and distinct categories.

First, I think of effectiveness in terms of a police agency prepared to deal with ordinary police functions. In this category I include such important matters as price-fixing at any level of trade, and what often goes with that,

efforts by trade groups to fix and maintain particular channels of distribution. On this last point I have in mind efforts such as those of a wholesale group to prevent manufacturers cutting them off by selling direct to retailers, efforts by a retail group to prevent manufacturers from selling direct to consumers, and combined efforts of both kinds of groups to the same end. In short, I have in mind any effort at cartelization or stratification of the distributive channels. In this category you find not only efforts of these groups to maintain their status but also efforts directed towards price control.

As to the general effectiveness of antitrust as a police force in this important category of cases where there are no questions of uncertainty as to the law and the criminal process is generally used, it is my impression that on the whole we have, to a considerable extent, prevented our economy from crystallizing after the manner of, let us say, the British economy. We have not, however, been entirely successful. One failure grows out of the successful effort of the trade groups in question in our legislative halls, both federal and state. In this connection I have in mind particularly the so-called "fair trade laws" and "unfair practice acts" in the state legislatures, together with the Miller-Tydings Amendment to the Sherman Act. In short, we have an important degree of disagreement as to the direction which our public policy should take.

The efforts of Anti-Trust have also been hampered in varying degrees throughout the years through lack of adequate appropriations and personnel. The remedy here is plain and I should like to see it applied by the Congress. I know of no reason why, if adequately equipped, Anti-Trust could not be an effective instrumentality to maintain an adequate play in the joints of our economy in the area I have indicated. In fact, it seems to me that over the years much has been accomplished, and as we look at our economy and contrast it, again with the British, we find that the distributive trades are in a position that I, for one, would describe as a broadly competitive system.

You will notice that in this category my emphasis has been upon the distributive trades but I include in this category manufacturers in so far as their activities are directed to the ends I have indicated.

My second category is a category of a quite different sort. Here I am thinking in terms of the effectiveness of our antitrust laws in checking bigness. We have bigness and lots of it in many important industries. If I detected in your letter the assumption that one of the objectives of the Sherman Act was to make small business out of big business and keep business small, I would question this assumption. Put in another way, I do not think it was the objective of the Sherman Act to keep small business small. Throughout our economic history since 1890 we have had lots of small businesses that have become big. Henry Ford is an example that comes to my mind quickly. Many more exist in our important industries, new and old. Looking at this same problem from another point of view, you come to the question, how big may these enterprises be allowed to become before

they transgress some rather ill-defined notion of public policy? Any effort to answer this question will, of course, bring up a large set of questions with which I am not competent to deal.

It seems to me that your inquiry suggests that in some way Anti-Trust has been ineffective in keeping small business small or, put in another way, keeping big business from getting too big. In this category the problem that confronts Anti-Trust is tremendous and it should not be surprising that we find ourselves with big business in many important industries. I do not want to attempt to state in a few short sentences why business is big. That is a study in itself and it is a study that must take account of important technological and economic factors. Would we have better and cheaper automobiles if we had 100 little businesses making them? A question such as this might be asked as to a great many industries and the only meaningful answer would be one that came from a careful study of that particular industry. The answers might be quite different in different industries.

Another important aspect of the problems in this second category is the question of the effect of bigness on price and other competition. I dare say the economists are having great difficulty in analyzing the important effects of bigness on the traditional economic thinking as to supply, demand and price and the many other important manifestations of competition. I can only give you the impression that I have from close observation of the behavior of a few industries and the effect of the enforcement of our antitrust laws. It is my impression that today, more than ever before, our business leaders are aware of Anti-Trust and take account of public policy as it crystallizes from time to time in Anti-Trust and the decisions of the courts. The days of the ruthless business leader are over—and have been for some years.

I also think that it is too simple an assumption to make that because there may be only four or five companies in a given industry that, therefore, price agreements and other activities of that sort are in full swing. Bigness has its problems and plenty of them and it has important responsibilities in its industry. I am in no position to say, from the point of view of the consumer, that we would have better goods at lower prices if we had more and smaller companies in a particular industry. From the point of view of the labor leader, it is quite possible that in some industries only bigness will make it possible to have an adequate wage and a lower price to consumers. In another industry smallness as against bigness may be irrelevant. The answers to these questions might be "yes" in one industry and "no" in another and both answers would have a lot of guesswork in them. Our public policy is ill-defined. Our thinking, too often, is in terms of what to do about bigness rather than in terms of the objective of our impressive economy.

Harlan L. McCracken

Louisiana State University

If one were to ask me why our antitrust laws and enforcement had been of almost no avail, I would say that it is due primarily to the "Fourth Division of Government," namely lobbies and pressure groups. Every combination which desires to restrain trade constitutes a terrific pressure group. Witness the silver bloc, the farm bloc, the real estate lobby and the ever-present pressure from steel and aluminum.

This is the real and basic problem. All pressure groups desire benefits and special privileges for themselves, regardless of their general effects upon the national economy. Also, they are shortsighted and seem always to be working for a temporary *boom* even if it is pretty clear that the long-run results will be a *bust*.

Some have thought that we will have to organize a "consumer pressure group," seeing to it that it has a very large membership, a good treasury, and strong officers so that every time a small bloc presses for class legislation this large consumer group can force legislators to work at the issue from the national point of view and from the population as a whole. Without such an organization with officers and a treasury the case against blocs and pressure groups usually always goes by default.

From the economic standpoint I see no fundamental reason why we cannot restore a reasonable and high degree of competition if we want to. For example, we know there is a powerful connection between protective tariffs and trusts. Yet tariffs are man-made and can be unmade by man. There is no economic or logical defense for trying to strengthen an industry like steel or aluminum by giving it a protective tariff and then trying to weaken it by antitrust prosecution. I would, therefore, propose that wherever we find combinations restraining trade against the public interest we examine the tariff; and if they have been made immune to foreign competition by a tariff and immune to domestic competition by a trust, then I would say that the first step should be a sufficient reduction in the tariff to force foreign competition. Of course if it be an international cartel, then we would need to take direct legal action.

The difficulties of restoring a high degree of competition are almost wholly political and not economic or legal. Antitrust laws can be enforced where there is sufficient *will* to enforce them, and competitive enterprise can be made to succeed if given the proper opportunity and environment.

George Nebolsine

Cahill, Gordon, Zachry & Reindel, New York City

Your letter raises a question of considerable importance today—as to whether the Sherman Act, enacted prior to development of mass-production techniques, the invention of the automobile, the radio, synthetic chemicals

and the development of atomic energy, and reflecting the philosophy of the mid-19th century economists, has served to preserve a competitive system. I shall express my views briefly and ask you a question in turn.

Certainly, the conception of competition has been modified in respect to public utilities, carriers, and a host of economic endeavors which have come under government regulation. It is the current thesis of some economists that the alternative to the widest kind of competition—indeed, of atomization of industry—is government regulation of industry generally. I cannot concur in this view, since with a few (and very deplorable) exceptions nothing approaching the pure competition of atomized economic units as laid down by 19th century economic thinking has ever existed in industry. On the contrary, there has evolved, through trial and error and under the Sherman Act, a very great industrial expansion, the competitive behavior of which squares neither with the theories as to pure competition nor with the theories of monopoly behavior. There has taken place in industry generally in the last forty years amazing progress—through innovation, improved quality of product and of services rendered in connection therewith. Except for postwar distortions, there has been a general decline in prices of many manufactured articles. Labor conditions have improved.

There have been times in almost all industries when increase in unit size has been essential for efficiency and when cooperation among industry members at technical, marketing and financial levels has been essential to progress. Much of the concentration or cooperative endeavor that has taken place in response to economic needs has resulted in advancing the public interest.

As I read Dr. E. G. Nourse and Dr. Leon Keyserling, and other contemporary economic authorities, I find that an important trend of economic thinking points in the direction of making over-all economic *performance*, rather than *structure* of enterprises the main—if not the decisive—test of the public interest as applied to industry.

Such a view of the situation does not lead to the repudiation of the principles of a free market or the repeal of antimonopoly laws or the encouragement of monopolistic practices; it does suggest a more realistic view of the varied problems of industry than could be gained from thinking about competition in the abstract and by finespun interpretations of the three lines of Section 1 of the Sherman Act.

There is a suggestion in your question that the antitrust laws have been *ineffective*. I disagree with this: I believe they have been very effective. The economic structure of the United States, though far more advanced technologically than that of other countries, has greater potentialities of intra- and inter-industry competition within it than foreign industry structures which escaped the influence of the antitrust laws. Our competitive structure is an asset in our economy and we should preserve it wherever it can subsist. But we should not expect the *form* and *structure* of industry to reflect primitive technology. We should not seek to artificially create multiplicity of units through atomization of industry without regard to technological and market requirements. This would be a retrogressive step, out of keeping with economic needs.

The Supreme Court in the recent case *U.S. v. National Lead* refused to divide up the two companies engaged in the industry. The court invoked the tests of necessity, practicability and fairness of divestiture of plants. It stated that there was no showing that four major competing units would be preferable to two, or that six would be better than four.

The question posed by the Court is a challenge to the advocates of atomizing industry. Is it demonstrable that four competitors are preferable to two? Does it make any difference to the answer if the two are equally advanced technologically and are well-capitalized concerns that have enlarged their plant and improved the product? What if the alternative is a "sick" industry composed of competitors that can barely get along and are not in a position to introduce revolutionary improvements in the manufacturing process or to establish a product of high reputation in the market? In other words, is the test of the public interest performance or form? I do not think we can have it both ways.*

* I replied to Mr. Nebolsine's questions as follows:

You asked me for my opinion as to whether or not four sets of competitors are preferable to two, under various sets of circumstances which you state. I am glad to give you the best answer I can to that difficult question. My answer is that, in the interest of maintaining a broadly competitive system, there is a presumption in favor of having four rather than two competitors, and six rather than four.

As I see it, this presumption should be upset only when there is an affirmative showing that continuation of the larger number of competitors is resulting in failures such as those to capitalize fully the advantages of large-scale production or, as you suggest, is resulting in a "sick" industry composed of ill-balanced competitors, incapable of introducing revolutionary improvements in the manufacturing process or establishing a product of high reputation in the market.

I am not altogether sure that the desirability of having a broader competitive base would not justify foregoing full exploitation of the advantages of large-scale production. This, I take it, was the position taken by the National Association of Retail Grocers at their recent convention when, by inference, they favored the elimination of quantity discounts to "a small number of giant corporations" even though they could be justified in terms of the saving affected by handling the large quantities involved. In terms of maintaining a safe base of political democracy, which is my central interest in the antitrust laws, I can envisage some advantages in such a policy but I do not now embrace it. However, I do think it is demonstrable that four competitors are better than two unless having the smaller number clearly results in technological and economic gains of the sort you mentioned.

When there are two competitors rather than four, the chances of collusion about prices and production are obviously much increased. While I think too much emphasis is generally placed upon the conspiratorial impulses of the business community, I do not think these chances should be ignored. Likewise, in the complete absence of any collusion, the chances that a monopolistic course will be taken in the "follow the leader" pattern are increased when there are only two competitors.

If the heads of the two surviving firms were the hard-driving, fiercely independent type of businessman who has played such a large part in the industrial development of the U.S.A., two of them would be enough to create a ruggedly competitive situation. But if the two were of the genteel, clubby and inclined-to-take-it-easy type which is also known in the high reaches of American business, two companies might get together and tend to sleep together indefinitely. When the number of firms involved is small, the chances of having the industry animated by vigorously competitive leadership also seem to me to be relatively small.

Beyond those which I have mentioned there are, I believe, many other advantages in

George W. Stocking

Vanderbilt University

I believe the chief reason the antitrust laws have not been more successful is that no politically powerful economic group wants them to be generally enforced. This is partly due to ignorance and partly to vested interests. But regardless of the reasons neither big business, nor labor, nor the farmers believe in a free-enterprise system. A paraphrase of Pope expresses the trend in public attitudes.

Monopoly is a monster of such frightful mien

That to be hated needs but to be seen (Sherman Law 1890)

But seen too oft, familiar with her face

We first endure (Rule of Reason 1911; *U.S. v. U.S. Steel Corporation*, 1920), then pity (Federal Trade Commission trade practice conferences and codes; trade association activities, etc.), then embrace (NRA).

Big Business has failed to distinguish between free enterprise and private enterprise and apparently is unwilling to admit that the former is essential to the preservation of the latter. Whether this is due to ignorance or hypocrisy does not affect business' stubborn insistence that it must be left alone. The most recent illustration is the National Association of Manufacturers' characterization of the Federal Trade Commission's recommendation for amending Section 7 and 11 of the Clayton Act as a witch hunt.

Labor professes to oppose business monopolies, but shouts to high heaven against any proposal to curb its own monopoly power.

Farmers have become so used to subsidies for output restriction and destruction that they regard them as constitutional rights.

Under these circumstances not the failure of antitrust but the basic vigor of competition is amazing. Between 1911 and 1930 the oil industry's monopoly had been transformed into competition so ruinous that the states stepped in to forbid it. Between 1897 when the Supreme Court came to the rescue of the sugar trust (*E. C. Knight case*) and the late 'twenties sugar refining had become highly competitive—American control having declined from 97 per cent to about 40 per cent—and the industry was "demoralized" by "ruinous" competition.

Bear in mind that the technique of competitive readjustment is ruin and bankruptcy, but among modern social groups nobody wants to be the sacrificial lamb even for the good of the tribe.

If we really wanted a competitive economy it would be necessary to:

1. Revise our patent laws so as to give venture capital easier access to modern technology.

having more rather than fewer competitors. I trust, however, that I have successfully argued that the strong case for having four rather than two competitors can only be upset by a clear showing that the lesser number is absolutely essential to realize the advantages of mass production, or to overcome otherwise inescapable economic weakness. It is my impression that the showing in question is more often assumed than made.—D. M. K.

2. Prohibit mergers so as to make business firms as small and numerous as is consistent with the economies of mass production.

3. Require federal incorporation for firms the assets of which exceed a specified minimum and which do business in interstate commerce, and limit the use of the holding corporation.

4. Supply more adequate funds for the enforcement of antitrust. Eternal vigilance is the price of liberty.

5. Curb labor monopolies. Specifically, prohibit industry-wide bargaining. The ideal unit of bargaining would probably be the firm and the size of the firm would be limited in accordance with the principle set forth under (2) above.

6. Lower tariffs.

7. Through monetary and fiscal policies, stabilize the general price structure; but leave individual prices to seek competitive levels and perform their proper function of allocating resources and distributing income.

8. Curb monopolies of prestige created by advertising where the main effect is to increase costs by diverting customers from one product to a substantially similar product. This might involve limiting or taxing advertising expenditures, government grading to prevent misleading advertising, or service by a Bureau of Standards like that of Consumers' Research.

In brief, it would be necessary to create an environment conducive to the operation of a free economy. If we could solve the problem of industrial stability, *i.e.*, insure an expanding economy, the readjustments in use of resources which competition would require would be relatively painless.

This obviously is a big order and while the broad goal is generally attractive—a maximization of economic freedom, a high level of employment and income, and economical use of productive agents—its specific objectives encounter serious obstacles on every hand.

Myron W. Watkins

New York City

Viewed from the standpoint of the goal at which the antitrust laws aimed (the past tense is deliberate; it's difficult to say what they aim at now, particularly after the Miller-Tydings amendment!), the accomplishment has been meager, I agree. But if one were to speculate on where we would have come out without antitrust, he could hardly conclude that the results have been negligible. Even more industries under the thumb of big business, even more gigantic mergers than those we know, and an even tighter web of collusive restrictions than enmeshes us, these would be our lot. A quarter of a loaf is better than none; but it's not as good as half a loaf!

The explanation of the shortcomings of antitrust, however big or little one regards them, is complex and the ranking of the factors depends on the way one frames the problem. Some people might be content with an explanation that ran mainly in terms of public apathy. Others might find the chief

cause in business obtuseness, callousness, or cupidity. Still others would probably put the principal emphasis on technological "resistance."

For myself, a more significant explanation would be one that took each of these factors as a datum, simply phases of the assumed conditions that serve as a point of departure for the inquiry. Given *some* public indifference, given *some* business obstinacy and trickiness, given *some* technological obstacles, why has antitrust been less effective than it might have been? So framing the issue, the courts, the Congress, and the executive all have a good deal to answer for; and considering the possibilities of independent, constructive action I would distribute responsibility in about that order. In a whole string of cases from the Knight fiasco through Oil and Tobacco, American Can, Shoe Machinery, Steel, Harvester, Swift, International Shoe, to Alcoa, either a different judgment or a different decree might have shaped a different structure for American industry. The significance of Knight, Steel, and International Shoe, for example, reached far beyond the position of the immediate defendants.

Moreover, if judicial interpretation and application of the antitrust laws had been bolder and more clear-sighted, I have a strong feeling that Congress would have been less lethargic. A more constructive judicial record would, I believe, have encouraged Congress to push forward (as it did feebly in 1914 after the *outward* "success" of 1911) on the path of supplementation of antitrust policy. Such a development was indispensable, if antitrust were to become something more than folklore. Patent law, trade mark law, fiscal law, corporation law, in these and other fields, but pre-eminently in these fields, Congress has done nothing, where it might have done much, to bolster antitrust. Indeed, it is hardly too much to say that in each of the fields mentioned Congressional inaction—failure to support antitrust—has been tantamount to sabotaging it.

Bethuel M. Webster

Webster, Sheffield & Horan, New York City

I do not agree that the antitrust laws "have done relatively little since 1890 to protect and preserve a broadly competitive system," or that the results have been negative. It is my view that, while business has grown and flourished under the antitrust laws, it has grown and flourished to a very large extent in a competitive atmosphere. For example, despite the 1941 convictions at Lexington, the tobacco industry, operating under the stringent decree made in 1911, puts out a fine product at low cost in a highly competitive market. One needs only to read the ads or listen to the radio to know that there are four or five major companies and several lesser companies engaged successfully in the struggle for business. The same is true of automobiles, movies, electrical appliances, chewing gum, etc. In the *National Lead* case, recently decided by the Supreme Court, it appeared that, while du Pont and National Lead had 90 per cent of the titanium pigment business (based on patents which they originated and on cartel agreements which the Court

found illegal), subsidiaries of American Cyanamid and Glidden had entered the field and were gaining on the larger producers; meanwhile, there was a terrific struggle between du Pont and National Lead for customers and orders, though the prices of their similar products were substantially identical.

It is the fashion to say that the antitrust laws have never been enforced, or at least that they were not enforced until Thurman Arnold undertook to enforce them in his unique way, and that they have failed to protect and preserve a competitive system. This may be true in the sense that in 1890 Congress did not foresee the enormous industrial development ahead and that the Sherman Act was not calculated to, and has not, protected and preserved a decentralized economy consisting of many small independent units. (Business is unquestionably Big and getting Bigger.) The legislation of the "New Freedom" of 1914 was intended to have such an effect, but by that time industry and business in general had developed in such a way and to such an extent that the Clayton and Federal Trade Commission Acts could not effectively arrest the trend.

The word "negative" is frequently used in this connection. It means different things in different contexts, but to me it means nothing if it suggests that the deterrent effect of the laws has been insubstantial. I think that, by and large, businessmen, even big-businessmen, desire and try to obey the law, and whether they wish to obey or not are required to make their plans and act with reference to the law. This is an important positive effect, just as the effect of the Securities and Exchange Act, or the laws against issuing false statements, or indeed any other law having commercial application, establishes a public policy to which business generally conforms.

Summary Observations

I take it that the participants in this symposium are in general agreement that the antitrust laws (and their enforcement) have not been without influence in shaping the structure and performance of the American economy. The influence which seems to have been most clear-cut is that of blocking agreements between enterprises in the same line of business to fix prices and other terms of sale of products which otherwise would be competitive in these particulars.

I take it that it is equally clear that there is not agreement among the participants as to whether or not the influence of the antitrust laws has been such as to "preserve a broadly competitive system in the United States." Opinion here ranges all the way from a feeling that the laws have been successful in this regard to a feeling that they have been so unsuccessful that it is unwise to rely upon them longer as a major device to make business serve the public interest by responding fully to the dictates of competition.

As one cruises back and forth over this remarkably broad range of opinion one fact seems to emerge with increasing clarity. This fact, stressed directly or indirectly by participants in the discussion, is that the concepts of competition and of a "broadly competitive system" are so diverse that they offer wide latitude for difference of opinion as to the effectiveness of the antitrust laws in preserving and protecting such a state of affairs.

More specifically, in the going concepts of competition there seem to be two major ingredients which are mixed in quite variable proportions. One is performance in buying and selling. The other is the number and relative size of the participants in this process. Thus, according to one going concept of it, competition approaches zero as the number of competitors moves the last few numbers in the same direction. In another concept, the competition may not even get really lively until a few giants are left alone in the ring to slug it out.

It is not my intention even to try to resolve what at times may obviously be a confusing conflict between these concepts, and a conflict which I am sure has afflicted me personally. Both concepts seem to me to have their use, with the element of size and power being perhaps particularly important in trying to gauge the kind of economy that is safe for democracy. That is where my personal interest in the antitrust laws has its mainsprings.

My purpose is simply to note that until we expose the various and complicated strands of our concepts of competition, and then put them together in a clear-cut design which we all understand and accept, our chances of charting clearly how well we are doing in preserving and protecting competition will be seriously compromised. Likewise, until we know much more than now appears to be known about relationships between size, industrial and corporate, and technical efficiency it seems to me that efforts to preserve a competitive system without paying excessively in the form of industrial inefficiency will go forward in a deep fog.

One of the participants in this symposium asserts that "a choice must be made between (1) firms of the most efficient size but operating under conditions where there is inadequate pressure to compel the firms to continue to be efficient and pass on to the consumer the benefits of efficiency and (2) a system in which the firms are numerous enough to be competitive but too small to be efficient." Scarcely less explicitly other participants deny that any such disagreeable choice is necessary. In most industries it does not appear to me that a full appeal to the facts has been made.

In the meantime, there appears to be substantial agreement among the participants that antitrust laws would have accomplished much more than they have accomplished in attaining their ends if there had not been shortcomings such as judicial bungling of economic problems, conflicts, inconsistencies and loopholes in administration, and inadequate support for enforcement. In some cases the remedies for these shortcomings look difficult. If it is true, as one participant asserts, that the courts alone possess enough prestige to have a chance to enforce the antitrust laws effectively, elimination of judicial bungling of the economic problems involved is not likely to be a speedy process. Economic education is not a high-speed acquisition. Likewise, the problems presented by pressure groups bent upon gutting the antitrust laws have no easy or simple solutions.

However, if there is a chance of doing an effective job in the field of antitrust law enforcement (I am not yet persuaded that there is not), it will certainly be greatly enhanced by economic analysis of the problems involved which is more firmly buttressed factually. If there is no chance of

COMMUNICATIONS

Price Flexibility and Full Employment: Comment

I should like to suggest two corrections in Mr. Don Patinkin's article "Price Flexibility and Full Employment" in the September, 1948 issue of the *American Economic Review*.

1. Mr. Patinkin points out that Pigou's proposition that a decline in the price level will reduce savings and stimulate employment by increasing the real value of cash balances implies a special definition of "cash balances." The "cash balances" relevant to Pigou's argument consist of "the net obligation of the government to the private sector of the economy." This departure from usual definitions of money is necessary because to the extent that money is backed by bank loans and discounts the gains of deposit holders from a decline of prices are offset by the losses of bank debtors. The cash balances relevant to Pigou's analysis are denoted by M_1 .

There follows a statement of considerable importance for monetary policy. Speaking of open-market operations Patinkin says: "Since these operations merely substitute one type of government debt (currency) for another (bonds), they have no effect on M_1 , and hence no direct effect on the amount of savings" (p. 551).

This statement is incorrect if the open-market operation has any effect on the market prices of government bonds, as is likely to be the case. Open-market purchases would increase M_1 , even if private holdings of government debt are valued at par or in some other conventional way. They would increase M_1 even more if the government debt is valued at market prices. Thus, suppose that before the open-market purchases the private sector holds \$10 billion of currency and government bonds worth \$100 billion at par and also at market. $M_1 = \$110$ billion. The government buys \$20 billion, par value, of the bonds, and in the process drives up their price so that it pays \$21 billion for its purchases and at the end of the operation bonds stand at 110 in the market. If bonds are valued at par for the purpose of measuring M_1 , M_1 will have increased to \$111 billion (\$31 billion currency plus \$80 billion bonds). If bonds are valued at market, M_1 will have risen to \$119 billion (\$31 billion currency plus \$88 billion bonds).

Mr. Patinkin's analysis does not postulate any floor to interest rates above zero. If we then assume a world in which all government interest-bearing debt is in the form of consols there would seem to be no limit to the increase in M_1 that can be brought about by open-market purchases so long as any government interest-bearing debt is outstanding. Open-market purchases could push the yield of the consols down toward zero, raising their aggregate market value toward infinity.

If this analysis is correct, open-market operations are a third way of increasing real cash balances in addition to the two mentioned by Patinkin,

falling prices and government deficits. This third method has important mechanical and political advantages that make it a valuable ingredient of stabilization policy.

2. Mr. Patinkin defines M_1 as "the sum of interest- and noninterest-bearing government debt held outside the treasury and central bank" (p. 551). This definition is used in the measurement of M_1 on page 559. The definition is defective in its treatment of gold and federal debt held by the Federal Reserve Banks. Under this definition an inflow of gold, increasing the public's deposits and member bank reserves would not increase M_1 . Neither would M_1 be increased if the Treasury sold securities to the Federal Reserve using the proceeds to pay individuals who hold deposits. If the Federal Reserve is to be treated as part of the government, the Federal Reserve's liabilities, including member bank reserve balances, should be treated as government liabilities. If the Federal Reserve is not to be treated as part of the government, the government's liabilities should include its liabilities to the Federal Reserve.

M_1 would be better defined as gold stock plus federal debt (interest-bearing and Treasury currency) held outside Treasury, minus Treasury deposits at Federal Reserve and other banks. Alternatively, looking at the Federal Reserve as part of the government, we get M_1 equal to money in circulation plus federal debt held outside government and Federal Reserve Banks (this is Patinkin's definition) plus member bank reserve balances, plus non-member bank deposits at Federal Reserve, plus "other Federal Reserve Accounts," less Treasury deposits outside Federal Reserve Banks less Federal Reserve credit other than U. S. governments. These two definitions are identical.

HERBERT STEIN*

* The author is associate research director, Committee for Economic Development, Washington, D.C.

Price Flexibility and Full Employment: Reply

1. Both of Mr. Herbert Stein's corrections are well taken, and I am glad to have them on record. There are just a few comments I would like to make.

Mr. Stein seems to be hesitant about evaluating at market prices those bonds remaining unsold. I think this should definitely be done; so, in the example he offers, M_1 should be considered as increasing from \$110 to \$119 billions. Once we adopt this approach, the possible effects of open-market purchases become still greater; for, through its effect on the interest rate, the government will also change the value of assets other than government securities.

Even apart from this last point, it should be recognized that the changes in M_0 and M_1 will not in general be equal. In the case of open-market purchases, the increase in M_0 equals the total amount of money expended for the purchase of the bonds; the increase in M_1 equals the increased value of assets (both of those bought and those not bought by the government) caused by the open-market operations. Corresponding statements can be made for open-market sales.

To finish up with Stein's first point, I would dispute the emphasis in his statement that "open-market operations are a third way of increasing real cash balances in addition to . . . falling prices and government deficits." Nominally, Stein is correct. Actually, open-market purchases which bid up bond prices are just a special form of deficit financing. When the operation is completed, the total amount of government debt (interest- as well as non-interest-bearing) has increased. All that has happened is that the composition of the debt has changed. Any criticism levelled against deficit financing via, say, tax remissions, can also be used against open-market operations.

2. In the original article, the definition of M_1 given in §6 refers to an economy in which all bank reserves consist of hand-to-hand currency. Unfortunately, this definition was carried over to the analysis of our own economy (pp. 558-59), where there are also debtor relationships between the Federal Reserve System and the private sector. Stein's modifications of the definition of M_1 allow for these relationships. Milton Friedman has also suggested that postal savings be included.

Even these modifications do not solve all the problems of defining M_1 in an economy as financially complicated as ours. What about state and local bonds? I think these should be excluded because of the ultimate necessity of these local governments to balance their budgets. What about bonds of government corporations? I think these should also be excluded, for the same reason. In any empirical study of the effects of changes in M_1 , these and other complicated problems will first have to be solved.

These changes in the definition of M_1 require the recomputation of the data on page 559 of the article.¹ In order to be perfectly clear about the steps used in the computation, I shall first explicitly state the definition of M_1 used, at the expense of repeating some of the material in Stein's note: M_1 equals:

- (1) money in circulation outside the Treasury and Federal Reserve System
- (2) *plus* market value of government interest-bearing debt held outside government agencies and the Federal Reserve System
- (3) *plus* member bank deposits in the Federal Reserve System
- (4) *plus* non-member bank deposits in the Federal Reserve System
- (5) *plus* other Federal Reserve accounts
- (6) *minus* Reserve Bank credit outstanding, excluding that based on Reserve Bank holdings of U. S. government securities
- (7) *minus* Treasury deposits in member and non-member banks
- (8) *plus* postal savings

Data on these series were collected² to yield the following figures for net

¹ The study referred to in footnote 19 of the article must also be revised. This has not yet been done.

² Data on all these series, except for (2), (7), and (8), can be obtained from *Banking and Monetary Statistics*, p. 368. On pp. 360-67 of this book their interrelationships are discussed. For (7) see *ibid.*, pp. 34-35. For (8) see *Statistical Abstract of the United States: 1947*, p. 419.

Being unable to find an official series for (2), I used the following procedure: Total

real balances in the years 1929-1932, respectively: \$16.6, \$17.1, \$20.3, and \$24.2 billions. These results give even less encouragement than the original ones for faith in the usefulness of the Pigou effect as a policy measure. They show that real balances increased every year of the period, while real national income continued to fall. The year-to-year *increases* of net real balances for this period were 3%, 19%, and 19%, respectively; these were matched by corresponding *decreases* in real national income of 15%, 13%, and 18%,^c respectively.

Before accepting the Pigou effect as a useful tool of policy, it would seem reasonable to require that a 46% increase in real balances should show at least some salutary effects. This is exactly the percentage increase that took place over the period 1929-32. Yet it was accompanied by a *decrease* in real national income of 40%. To say the least, such evidence should make one hesitant about advocating the Pigou effect as a practical policy measure.⁸ True, the above data do not take into account what happened to the real value of all assets during this period (*cf.* §5, especially footnote 6, of the original article). But, with respect to policy, monetary assets (as represented by M_1) are the only ones over which the government has any control. Hence, the case for the Pigou effect must stand or fall on the response of the economy to changes in the real value of monetary assets alone. On this question the available evidence seems definitely in the negative.

DON PATINKIN*

outstanding government debt at face value was classified according to maturities (0-5 years, 5-10, and over 10) on the basis of *Banking and Monetary Statistics*, p. 511. These classifications were multiplied by price indexes for government bonds with maturities of more than 3 and less than 4 years, more than 6 and less than 9, and more than 10, respectively (Standard and Poor, *Statistics: Security Price Index Record: 1948 edition*, pp. 139-44). The sum of these products was used as an estimate of the market value of the total government debt. The ratio of this to the face value of the total debt was computed, and this ratio applied to the face value of government debt held outside the Treasury and Federal Reserve System (*Banking and Monetary Statistics*, p. 512) to yield an estimate of the required series.

⁸ In particular, I feel that Milton Friedman's policy proposals in his "A Monetary and Fiscal Framework for Economic Stability" (this *Review*, June, 1948, pp. 245-64) give entirely too much of a central position to the Pigou effect (*cf.* especially *ibid.*, pp. 259-61).

* The author, formerly associate professor of economics at the University of Illinois, is now lecturer in economics at the Hebrew University in Jerusalem.

Geometrical Measurement of Elasticities

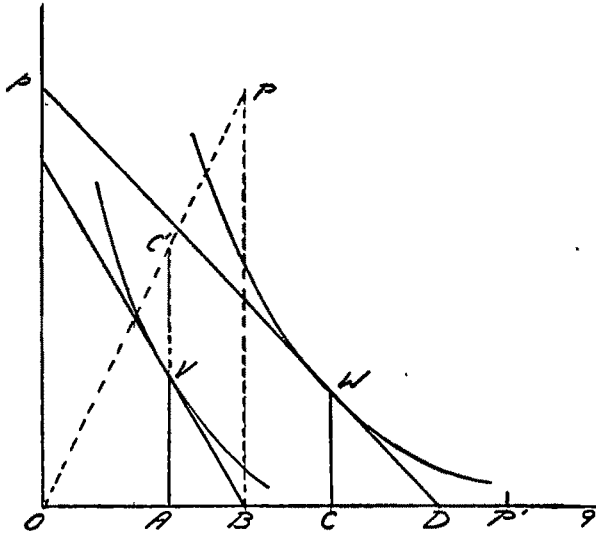
Messrs. John S. Henderson and Abba P. Lerner, in notes presented in *The American Economic Review*,¹ have suggested methods of geometrical comparisons of relative point elasticities on different curves.

When comparing the point elasticities of two demand curves, it is sometimes

¹ John S. Henderson, "Geometrical Note on Elasticity of Demand," *Am. Econ. Rev.*, Vol. XXXVI (Sept., 1946) pp. 662-63.

Abba P. Lerner, "Geometrical Comparison of Elasticities," *Am. Econ. Rev.*, Vol. XXXVII (March, 1947) p. 191.

desirable (under a controlled marketing program, for example) to know not only which of the two elasticities is larger, but the ratio of the elasticities. Comparison of relative point elasticities on two demand curves by the ratio of two length ratios may be confusing. The following method is suggested to reduce the ratio of the elasticities to a single ratio of two line segments, illustrated by the diagram shown below:



The elasticity at V, $E_v = \frac{AB}{OA}$, the elasticity at W, $E_w = \frac{CD}{OC}$. With O

as center swing an arc equal to OC cutting AV extended at C'. At B erect a perpendicular and extend to cut OC' extended at P. Since BP is parallel

AC', $\frac{AB}{OA} = \frac{C'P}{OC'}$ (a line drawn through a triangle parallel to the base

divides the sides proportionately), or since $OC' = OC$, $\frac{AB}{OA} = \frac{C'P}{OC}$. Then,

with C as center, and C'P as radius, swing an arc cutting the q axis at P'.

Thus $E_v = \frac{AB}{OA} = \frac{C'P}{OC}$, and $E_v : E_w = \frac{C'P}{OC} : \frac{CD}{OC}$ or $E_v : E_w = C'P : CD$.

C. D. HYSON*

W. P. HYSON*

* C. D. Hyson is resident consultant to the Graduate School of Public Administration and a member of the faculty of economics, Harvard University. W. P. Hyson is a research mathematician for Harvard University.

MEMORIALS

Wesley Clair Mitchell 1874-1948

On December 28, 1947, at the sixtieth annual meeting of the American Economic Association in Chicago, Wesley Clair Mitchell received the first award of the Francis A. Walker Medal for pre-eminent contributions to economics during a lifetime of distinguished service. In a graceful tribute President Douglas expressed the admiration and affection in which Professor Mitchell was held by the economists of America. Mitchell's death came ten months later. It is a source of deep satisfaction to all members of the Association that opportunity was given while Mitchell was yet alive for the expression of our feeling for him, and for the acknowledgment of our indebtedness to him. We knew then, as we know now, that the award was made to one of the great figures in the history of our science.

I

Wesley Clair Mitchell was born in Rushville, Illinois, on August 5, 1874. His father was a country doctor who had served as a surgeon in the Union Army during the Civil War. The family was of New England stock, and although a Middle Western boyhood and later adult years in California and New York left their impress on Mitchell, something of the New England strain was always discernible in the pattern of his thought and life. His father's practice, which was limited by the effects of wounds received during the war, was combined with the management of a fruit farm on which the seven children worked during their early years.

Mitchell's pre-college schooling followed the pattern of the times, but home influences and his own native qualities contributed to produce a mind that was keen, sensitive, and richly stocked before he left the farm for college work. He had an abiding love of poetry and a delicate awareness of the subtleties of speech and the rhythms of the English language—qualities that must be acquired early, or not at all. His youthful training in logic he has described with singular charm. Christian theology was the instrument on which he polished his youthful wits, and a well-loved grand aunt was the protagonist of this theology.

She was the best of Baptists, and knew exactly how the Lord had planned the world. God is love; he planned salvation; he ordained immersion; his immutable word left no doubt about the inevitable fate of those who did not walk in the path he had marked. Hell is no stain upon his honor, no inconsistency with love. . . . I adored the logic and thought my grand aunt flinched unworthily when she expressed hopes that some back stairs method might be found of saving from everlasting flame the ninety and nine who are not properly baptized. But I also read the Bible and began to cherish private opinions about the character of the potentate in Heaven. Also I observed that his followers on earth did not seem to get what was promised them here and now. I developed an impish delight in dressing up logical

"difficulties which my grand aunt could not dispose of. She always slipped back into the logical scheme, and blinked the facts in which I came to take a proprietary interest."¹

The young University of Chicago offered rich fare to a mind thus prepared. John Dewey provided a kind of logic that was far removed from that of nineteenth-century theology, and a way of regarding the operations of the human mind that was a revelation to the young student. "It is a misconception to suppose that consumers guide their course by ratiocination—they don't think except under stress. There is no way of deducing from certain principles what they will do, just because their behavior is not itself rational. One had to find out what they do. That is a matter of observation, which the economic theorists had taken all too lightly."² Thorstein Veblen provided edification of another sort for the youthful agnostic with a weakness for subtle paradoxes. Veblen's influence on Mitchell was profound (the paper on "Industrial and Pecuniary Employments" provided insights that helped shape the study of business cycles and much of Mitchell's later thinking); but the young student could view Veblen, too, with detachment, enjoying his brilliant expositions and sardonic style while appreciating that this, also, with all its penetrating suggestiveness, fell short of sound craftsmanship. ("How important were the factors he dealt with and the factors he scamped was never established.")

Somewhat more conservative approaches to economics were open in the well-documented course of Adolph C. Miller on English economic history, and in J. Laurence Laughlin's offerings in money and banking. Mitchell's first serious investigations and his early undertakings as a teacher reflected Laughlin's influence. His study of the greenbacks stemmed directly from Laughlin, and Mitchell was first introduced to the phenomena of business cycles in Laughlin's courses. One other of Mitchell's teachers of economics, William Hill, played a formative role at this stage. An assignment by Hill of a course paper on "Wool Growing and the Tariff" sent Mitchell first to the reading of tariff speeches—an illuminating experience in its own right—and thereafter to his first comprehensive job of data gathering. Mitchell's native agnosticism was strengthened by the contradictions he found between his statistical conclusions and the notions he encountered in Congressional and academic discussions of the tariff.

Unsystematic but fairly extensive readings in anthropology (instigated by Veblen) and some systematic course work in psychology carried Mitchell beyond the programs of study followed by most students of economics. This period brought, too, first contacts with Jacques Loeb, the brilliant physiologist. Loeb's studies of the phenomena of behavior at both the physiological and

¹Letter from W. C. Mitchell to J. M. Clark, published in *Methods in Social Science*, edited by Stuart Rice (Chicago, 1931), p. 676.

Years later, on declining an invitation to make some laudatory remarks that would have been hypocritical, Mitchell said that only once in his life had he expressed views that did not represent his convictions. He had made this one departure from probity to ease his grand aunt's forebodings.

²*Ibid.*, p. 677.

psychological levels influenced Mitchell not only in their substance, but as illuminating examples of scientific method. Loeb gave Mitchell positive, first-hand acquaintance with rigorous methods that were clearly fruitful in studying one aspect of organic behavior. Mitchell was prepared to appreciate their potential fruitfulness in dealing with other aspects of behavior. Here were instruments that offered something positive and satisfying to a mind rendered skeptical by early predilections, by Veblen's biting critiques, and by Dewey's iconoclastic treatment of conventional attitudes toward processes of thought. Loeb's influence on Mitchell, confirmed and strengthened through later association at California, was deep and lasting.

In this background we have some explanation of Mitchell's ability to get outside the framework of traditional economics, to view with a fresh eye the problems economists set themselves and to appraise from a fresh viewpoint the methods employed by economists in attacking these problems. The projection of these factors helps, too, to explain Mitchell's characteristic attitudes in later years, and his own choice of problems and methods.

Mitchell's undergraduate and graduate studies at Chicago were broken by an interim period of one year spent at Halle and Vienna, where he attended lectures by Johannes Conrad and Carl Menger. There is no evidence that this experience had any material influence on Mitchell's thinking. His outstanding qualities as an economist were distinctive of procedures and ways of thought that had their characteristic development in this country.

Mitchell's doctorate was completed at Chicago in 1899, his thesis being a *History of the Legal Tender Acts of 1862 and 1863*. Thereafter came a year at the Office of the Census and two years at Chicago as instructor in economics. During this period his doctoral dissertation was expanded to become a *History of the Greenbacks*, a notable study in itself and a point of departure for much of Mitchell's later work.

In 1903, Mitchell moved to the University of California at Berkeley to begin a decade of fruitful work and of steady personal growth. His tools of research were sharpened and his mastery of them perfected. His brilliant greenback studies were extended. But the confines of this enterprise were too narrow, and Mitchell soon laid it aside. (*Gold, Prices and Wages Under the Greenback Standard* contains basic data he thought it well to make available to other scholars, with explanatory notes, but the material was not fully exploited.) Some of the essential problems with which he was concerned in his first studies persisted, but Mitchell sought to solve them in a much wider framework, analytical and observational. The massive monograph on *Business Cycles*, one of the great products of scholarship in the social sciences, was the result.

The labors that led to the solid contributions of these California years did not preclude other activities. This was a rich period in Mitchell's life, to which he always looked back as something of a personal golden age. A young man intellectually somewhat aloof and inclined toward austerity mellowed in the sunshine of the West and in the easy, pleasant companionships of the young University. His associations within and without his own department were congenial. An active Philosophical Union helped to provide

intellectual fare. He took to the Sierras avidly, relishing the free ways, the free language and the physical release to be found in mountain climbing. A companion of those days says that Wesley's inhibitions were peeled off like the layers of an onion as successive altitude levels were passed. He found a wife, too, in the West; when he left California he took with him the Dean of Women of the University.

Mitchell ended his term at California in 1912. Marriage and the completion of his *Cycles* study combined to mark the end of one period of his life and the beginning of another. His own professional desires and the interest he and his wife shared in problems of education were both served by a move to New York. There was a break of one year which was spent abroad; final tables for *Business Cycles* were prepared at Berchtesgaden, when that word meant merely a beautiful spot in the Bavarian Alps.

On his return to the United States in 1913, Mitchell began his service in the Faculty of Political Science at Columbia. The department of economics was small in those days. J. B. Clark was still meeting students occasionally; Seligman, Seager, Simkhovitch and Moore were the continuing members of the teaching staff when Mitchell joined it. None who attended Mitchell's courses in those early years will forget the sense of excitement and anticipation with which one entered a class. Mitchell was giving a course on *Business Cycles*, a reflection of his continuing research interests. Equally stimulating to the students of that day was his new offering on *Types of Economic Theory*. Mitchell's early discontent with economic theory, a discontent clearly manifest in his own account of his student days,³ had been combined with a sense of the need of generality if we are to have adequate explanations of complex reality. There was a conviction of need, a profound unhappiness over what was offered. *Business Cycles*, indeed, had been regarded by Mitchell as an introduction to economic theory. The completion of that study gave Mitchell opportunity to turn to a more systematic review and appraisal of theory than he had yet undertaken. This he did in the years following 1913, and the members of his small classes had opportunity to join in this review with him.

The content of this course varied somewhat from year to year. In its early form it included expositors of English classical doctrines through Marshall;

³ "Men had always deluded themselves, it appeared, with strictly logical accounts of the world and their own origin; they had always fabricated theories for their spiritual comfort and practical guidance which ran far beyond the realm of fact without straining their powers of belief. My grand aunt's theology; Plato and Quesnay; Kant, Ricardo and Karl Marx; Cairnes and Jevons, even Marshall, were much of a piece. Each system was tolerably self-consistent—as if that were a test of 'truth'! There were realms in which speculation on the basis of assumed premises achieved real wonders; but they were realms in which one began frankly by cutting loose from the phenomena we can observe. And the results were enormously useful. But that way of thinking seemed to get good results only with reference to the simplest of problems, such as numbers and spatial relations. Yet men practiced this type of thinking with reference to all types of problems which could not be treated readily on a matter-of-fact basis—creation, God, 'just' prices in the middle ages, the *Wealth of Nations* in Adam Smith's time, the distribution of incomes in Ricardo's generation, the theory of equilibrium in my own day." (From letter to J. M. Clark, Rice, *op. cit.*, p. 678.)

Jevons and Walras; Sombart, Schmoller, Schumpeter and von Wieser; Fetter, Davenport, and, extensively, Veblen. The treatment of each author studied dealt with the substance of that man's thought, and with the social and intellectual setting of this thought. At a later time Mitchell wrote, "Scientific progress consists largely in this process of taking thought about what had theretofore been taken for granted. As any science grows it keeps turning back upon itself in this fashion, and thus becoming conscious of more and more elements in its structure."⁴ Mitchell's native skepticism, his excursions into anthropology and psychology, and his ability to look at traditional economics with an objective perspective admirably fitted him to deal thus with the postulates and preconceptions of various types of theory.⁵

In the conduct of this course Mitchell played the part of a detached and skillful expositor, a leader of discussion, a stimulator of critical appraisal. His treatment of his class was gracious, stimulating; his interpretations were illuminating revelations to most of us. The facts of social history, the character of the climates of political opinion that dominated the years when particular theories were taking shape, and the threads of philosophical thought that ran through these years were developed systematically as the assumptions of different theorists, conscious and unconscious, were laid bare. Mitchell's own views were subordinated, except in his closing lectures, although they were inevitably revealed by implication and indirection. It was clear that a genetic explanation of economic phenomena was congenial to Mitchell's thought; that rationalistic assumptions were suspect; that understanding of economic behavior was to be sought through a study of human motivation at the level of the instinctive and the unconscious as well as at the level of rational activity; that institutions, "prevalent social habits," were at once controllable and controlling in the processes of economic life; that economics could play a major role as a positive instrument of human progress.

This course, like every course that Mitchell gave, was an adventure in education. Mitchell possessed in high degree the qualities of a good teacher. There was insight in his analyses; there was a freshness of view that he never lost; there was lucidity of thought and expression, and masterly orderliness of exposition; there was a sense of sharing with the student the task of inquiry. Above all, perhaps, was the sense of integrity. Here was a man without affectation, without pretense, who honestly sought understanding.

Mitchell's reputation had been established by the time he came to Co-

⁴ "Postulates and Preconceptions of Ricardian Economics," reprinted in *The Backward Art of Spending Money and Other Essays* (New York, 1937), p. 205.

⁵ His distinction between logical postulates, which are consciously recognized and taken for granted, and preconceptions—convictions that shape the general trend of a man's thinking without being themselves submitted to critical scrutiny—is revealing for the light it throws on Mitchell's ever-present suspicion of rational processes. "We take postulates up, play with them, and drop them for others. They are external to us and we feel no affection for them. But preconceptions are parts of us. They grow up in our minds. We are but dimly aware of the role they play in shaping our conclusions about the matters on which we focus attention. . . . Even in our most rigorous work we are influenced by them." *Ibid.*, p. 205.

lumbia; he had reached full scholarly maturity. Yet his growth continued and his accomplishments multiplied. A steady (but not a voluminous) flow of papers, reviews, addresses and more extensive studies came from his pen. Into each, whether brief or extended, went care in the construction of a logical and orderly argument, skill in the marshalling of evidence, and objectivity in the use of that evidence. Each, too, was in exposition a work of craftsmanship by a man who used the instrument of language with sensitivity and precision.

There was also an almost uninterrupted series of public and professional services and of accumulating honors. He was chief of the Price Section of the War Industries Board during the first World War, chairman of the President's Committee on Recent Social Trends, a member of the National Planning Board, the National Resources Board, and the Federal Emergency Administration of Public Works, and chairman of the Committee on the Cost of Living when that burning issue threatened to check the steady production of goods during the second World War. There was the launching in 1920 and the directing for a quarter of a century of a new instrument for the advancement of knowledge—the National Bureau of Economic Research, an institution which in very truth is the lengthened shadow of Wesley Mitchell. Over a long stretch of years he helped to break down the barriers between the social sciences and to unify their activities in the Social Science Research Council. He was one of those who founded and shaped the New School for Social Research. Counsel and guidance were given over many years to the Bureau of Educational Experiments. He was called upon to direct the affairs of professional societies, serving as President of the American Economic Association, the American Statistical Association, the Econometric Society, and the American Association for the Advancement of Science. There were elections to learned societies at home and abroad. Honorary degrees came from the University of Paris and from major universities in this country. These were rich honors and they were not unwelcome; but he remained to the day of his death a modest scholar, who would both gladly learn and gladly teach.

II

The general pattern of Mitchell's work as an economist was foreshadowed in his *History of the Greenbacks*. There was broadening, diversification, and enrichment in subsequent activities, but in notable degree later developments were natural outgrowths of the play of a questing mind on a set of problems first attacked in the greenback study. These problems were products of contemporary conditions—the long period of price decline and debtor difficulties that generated the cross-of-gold speech, the free-silver program, and the sound-money controversy of the McKinley-Bryan campaign. This price decline provided the great economic issue of that day. Its causes were furiously debated within and without academic halls. Francis A. Walker and J. Laurence Laughlin, Mitchell's teacher, were adversaries in a sustained debate on the quantity theory of money. Mitchell's first published paper, written as an undergraduate, was a contribution to this discussion, with

Mitchell taking a highly critical view of that theory.⁶ It was natural that this should be the path by which Mitchell entered upon serious economic study, and that his first major investigation should deal with the issuance of money and with related price-level and other changes. What is notable, however, is the rapid and steady growth, the passage from an old controversy to realistic research on larger issues and more fruitful phases of the inter-relations of money and prices. This growth was steady and cumulative. There is a clear, unbroken thread running through Mitchell's major studies—from the *History* to *Measuring Business Cycles* and to the manuscripts that were left unfinished at his death. Mitchell's life was given to a single great endeavor, pursued tenaciously, imaginatively, flexibly, and unremittingly. In some sense the job was unfinished at his death; the self-imposed task of mastering a vast and shifting body of data was foredoomed to incompleteness; but the incompleteness was the incompleteness of life itself.

Mitchell's concern in his *History of the Greenbacks* was with the economic consequences of the legal tender acts. The pursuit of these consequences led him to an examination of the effects of changes in the purchasing power of the standard money upon the distribution of the national dividend during the wartime boom from 1861 to 1865. The shares in this national dividend, first studied in money terms, through an appraisal of price fluctuations and shifts in relative prices, were then assessed in real terms. Beyond this study of changes in the real incomes of laborers, landlords, capitalists, and business managers lay a broader question—what effects these changes had upon the production and consumption of wealth, again at the level of material things.

In the unfolding story of these four years of monetary depreciation and rising prices we find elements that entered into much of Mitchell's later work: the money level and the real factors underneath; the role of prices and, in particular, the importance of differential price changes in determining the fortunes of different groups; the effects of relative price changes upon profits, and the relations between changes in profits and changes in the rewards of other factors. For a single major phase of wartime expansion Mitchell was seeking to define the sequence of cumulative changes by which depreciation of the standard of values altered the system of money payments and thereby shifted the distribution of real income. But his study was restricted in time and its scope was confined to a limited number of economic processes. Before this and the closely related successor study were finished Mitchell knew that he had not gotten to the bottom of the problems he faced; he had, moreover, learned to see these problems in a larger way.

Renouncing, therefore, the limited study within the period of the greenback episode, Mitchell turned first to a more general analysis of the system of prices. Here, as he followed the interesting ramifications of this subject, he found himself leaving the solid ground of observation behind him and venturing into speculative pronouncements.⁷ This was intolerable to a man

⁶ "The Quantity Theory of the Value of Money," *Journal of Political Economy*, March, 1896.

It was not many years before Mitchell himself condemned the restricted conception of the quantity theory on which the argument of this paper was based. See "The Real Issues in the Quantity Theory Controversy," *Journal of Political Economy*, June, 1904.

⁷ Cf. Rice, *op. cit.*, p. 679.

who was always supersensitive to the dangers of unchecked reason. But one phase of the working of the price system was open to investigation in realistic terms—the recurring readjustments of prices in the course of financial crises. These shifts, moreover, bore upon those problems of changing real output and consumption and shifting real incomes that had been objects of central concern in his study of the Civil War expansion. If adequate understanding of these recurring processes might be achieved, a contribution could be made to a kind of economic theory more satisfying than that yielded by introspection and the selective use of limited facts. So Mitchell turned to the study of business cycles.

The subsequent story will not here be told in detail. The search for an adequate understanding of business cycles was a search for valid economic theory. Mitchell's examination of accepted theories, his extended consideration of relevant thought and procedures in other scientific fields, and his own experience as an investigator led to conclusions respecting theory that have been set forth in various papers and that are embodied in his substantive work. Mitchell's persistent interest in the phenomena of business cycles carried through to his death, the two major publications subsequent to the 1913 monograph being *Business Cycles: The Problem and Its Setting*, in 1927, and *Measuring Business Cycles* (jointly written with A. F. Burns) in 1946. The founding of the National Bureau of Economic Research, in which Mitchell was a prime mover, was a direct reflection of Mitchell's deep-seated views as to the means by which adequate understanding might be achieved. The diversity of papers and brief monographs, notably the series of annual reports written by Mitchell as director of the National Bureau, bore continuing witness to the freshness and seminal character of Mitchell's thinking, and reflected the searchings of a continually curious mind for light on the central problems that had concerned him from his early Chicago days. His quest was never finished, but his zest for it was unabated and unflagging.

Mitchell's concern, as J. M. Clark has suggested, has been with problems of concrete behavior. For these he sought interpretations in terms of "analytic descriptions."⁸ "A theory of business cycles," he wrote in the Preface to his 1913 monograph, "must . . . be a descriptive analysis of the cumulative changes by which one set of business conditions transforms itself into another set." The theory providing such descriptive analysis would not be exhaustively detailed. The need of abstraction from the complexities of reality is clearly recognized by Mitchell. Conformity to the world about us and usefulness in the understanding of life processes are not inconsistent with conceptual simplicity. Mitchell's goal in the study of business cycles was the derivation of such a theory; his broader objectives were the confirmation of methods by which pragmatically tested theories might be derived and the establishment of agencies by which the research that might lead to such theories could be maintained and assured.

The road that Mitchell followed in seeking to establish theories that would serve as instruments of understanding was a hard road. Looking back over the fruitful years of his life, it is easy to overlook the valleys, the periods

⁸ Cf. Rice, *op. cit.*, p. 667.

of trial and struggle when refractory reality would not fall readily into patterns that met his own exacting standards. Retreat into the spinning of speculations would have been an easy way out, for a mind as adept at that art as was Mitchell's. But this was a course he did not take. He worked over his materials again and again ("... I have to do everything a dozen times."); he sought new observations; he experimented with new patterns. Always there was the interplay and interaction of reason and observation; speculations were checked against data, data were organized in ways suggested by speculation. New observations were sought to check ideas suggested by other data; old observations were re-ordered under the play of an imagination that never lost its freshness. If there was one dominant quality in Mitchell it was the tenacity with which this procedure—the interplay of speculative reason and meticulously careful observation—was carried through. It is a procedure to which we all give lip service; Mitchell practiced it.

It is true that always the observations yielded an incomplete structure; always there were challenging new issues; always the work was unfinished. But this was of the essence of the reality from which Mitchell refused to get away. Not even for the aesthetic satisfaction of deriving a harmoniously consistent, logically tight system—and Mitchell was a craftsman who loved nicely articulated structures—would he blind himself to aberrant observations. Not even for the joy of completing a lifework would he ignore any part of the complex reality with which he was dealing. Here was integrity—integrity that kept him at his testing and pattern-making until the day of his death, and that kept beyond his reach that final clean-cut termination of his job for which he had once hoped.

Mitchell framed no vast speculative system. He left no cosmology. No volume of *Principles* bears his name. His substantive contributions are embodied in four major monographs; his influence on economic thought and method was felt through these, through dozens of papers, addresses and reviews, and through hundreds of students. Some of the concepts and beliefs that shaped his research activities have been suggested above:

1. The emphasis on objective behavior as an object of study, as against the "intellectualist fallacy" of the nineteenth century.
2. The conception of economics as one of the sciences of human behavior.
3. A concern with reality, and a conviction that the objective of economics is the understanding of the institutions and processes by which men make their livings. All available instruments to this understanding should be utilized by the economist, but it is the understanding of reality and not the formulation of a body of concepts to be judged in terms of their own internal consistency which is the end-purpose of economics.
4. The belief that pecuniary institutions, and the money economy generally, provide keys of central importance to an understanding of contemporary economic processes.
5. The notion of sequence, the concept of cumulative, consecutive growth, as opposed to the Newtonian concept of equilibrium.
6. "The notion that inquiries should be framed from the start in such a way as to permit of testing the hypothetical conclusions"; profound belief

in the interplay of reason and observation as the way to achieve warranted conclusions.

7. The confidence in statistical measurement as a means of ensuring the cumulative growth of a body of factual knowledge; such quantitative, substantive knowledge would not only provide tests of hypotheses, but would constitute a seed-bed for the germination of new hypotheses.

These ideas (as here listed they overlap, of course) and related concepts that determined Mitchell's choice of problems and modes of study were derived in part from early teachers and from his studies in various fields; in part they reflected personal predispositions; as working instruments of his adult years they represented his own amalgam of thought and observation and his own mature judgments. From their application over half a century by a tenacious, questing, honest mind, actuated by a builder's instinct, came Mitchell's distinctive contributions to the body of economic knowledge, to the methods of economics, and to our present instrumentalities for the conduct of economic and social research.

The nature of these contributions will be the subject of appraisal in subsequent studies by Mitchell's fellow economists at home and abroad. In this brief memorial I suggest only the general nature of Mitchell's impact on the economics of his time.

His substantive contributions were extensive. No man did more to turn economists toward the study of the actual functioning of our economic system. The first great effort on *Business Cycles*, an extraordinary product of the zeal and energies of one man, yielded knowledge we had never before possessed of the phenomena of such fluctuations; the play of an imaginative and penetrating mind illumined and gave coherence to these phenomena. Subsequently, this body of organized information was extended in a massive and sustained research effort covering more than a quarter of a century. Many contributed to this accumulation and participated in the task of analysis, but Mitchell was the stimulator and the master organizer.

There were concrete contributions beyond the field of cycles. Mitchell was the captain of the team that launched the first comprehensive study of the amount and distribution of the national income. From this came not only a new body of knowledge vital to an understanding of economic activity; an enterprise was begun that was ultimately taken over by the federal government, and that, expanded and developed, provides today a great conceptual scheme for the organization and analysis of the facts of economic life. The growth of the body of concepts and methods relating to national income and the concurrent development of a rich body of organized facts provide an ideal example of the kind of expansion of knowledge in which Mitchell believed and to which he devoted his life.

Finally we must note the additions to our knowledge of the details of the working of the money economy that derive from Wesley Mitchell. Veblen had stressed the role of pecuniary institutions in the behavior of men; Marshall had said that money is "the center around which economic science clusters"; Walras and Pareto had developed a model defining the interaction of prices in the attainment of market equilibrium. And many other economists

had dealt with the money surface of things, often as a surface that obscured the play of real factors. Mitchell found great theoretical significance in the money aspect of economic processes. But to point this out was not enough. Characteristically, he labored to give substance to these ideas. From his earliest greenback study to his latest manuscript Mitchell was providing such substance. Giving realism to the idea of prices as a complex, interrelated system of many parts, with almost organic qualities of growth and change, Mitchell defined the characteristic modes of behavior of important elements of that system. The systematic study of prices, not primarily as specific equilibrium points in a conceptual network of supply and demand schedules but as measurable aspects of economic behavior, began with Mitchell.

Mitchell was a tool-maker, imaginative and ingenious in improving the technical instruments of research. His monograph on index numbers is still a classic in the field. In his own early work he developed novel techniques of cycle study, and he played a continuing part at the National Bureau in the refinement of these tools and the forging of others. He was not a mathematical statistician, but he had a lively interest in this rapidly developing subject and sought to utilize in his own work such of the tools and tests as he could employ with understanding and with assurance that they were relevant.

The perspective of time will be needed for an appraisal of Mitchell's influence on the body of concepts and analytical tools suggested by the term "economic theory." In the revealing letter to J. M. Clark to which reference has been made Mitchell has described his own reaction to the traditional theory of his college days. He was impressed by the danger of speculation on the basis of assumed premises, except with reference to the simplest of problems, such as numbers and spatial relations. Where *phenomena* were to be explained one could not cut loose from them; here the "patient processes of observation and testing—of the relations between working hypotheses and the processes observed" were the roads to understanding. "Romances, utopias, and economic systems" (*i.e.*, systems of economic thought) he loved, but he wanted to become a scientific worker.⁹

Theory, then, as an abstract system of thought which could not be tested against reality, had no place in Mitchell's working equipment. But theories as working hypotheses that can be checked against observations, as analytical devices that facilitate the organization of data, are to be sought and prized. These tools may be specific and limited; they may be comprehensive and far-reaching concepts; indeed an architectonic mind—and this Mitchell had in high degree—would be forever seeking the widest possible framework, the most comprehensive concepts, provided always that the framework fitted reality, that the concepts were open to testing and verification.

The body of ideas on which the economist might draw in deriving working hypotheses expanded, in Mitchell's thinking, as he matured and as his own experience broadened. The social sciences, the biological sciences, the sciences of the mind—all these furnish the economist with fruitful leads. Man's

⁹ Rice, *op. cit.*, p. 678.

reciprocal relations with institutions of his own contriving, institutions which he has shaped and which in turn are shaping him, are of central concern to one who is attempting to define patterns of cumulative change in economic behavior and to develop a body of concepts for use in the study of economic processes. This body of concepts will be checked, modified, rechecked and again modified until there is conformity to the circumstances of economic life. A structure of ideas thus developed and thus adapted to reality would provide intellectual tools for the understanding of economic behavior.¹⁰

Although Mitchell's predilection was toward inductive procedures and constant verification, and although he reacted against the system building of the generation that preceded his own, he recognized virtue in a diversity of approaches to economic problems. He was intolerant of sheer abstraction which masqueraded as an explanation of reality. But for rigorous abstract reasoning as a stage in the process of inquiry he had the fullest respect. There was room in economics for the exercise of many skills; economics was to Mitchell a house of many mansions.

III

To the picture of Wesley Mitchell the tenacious investigator, the brilliant expositor, the inspiring teacher, there must be added a few strokes at least to depict other sides of a singularly balanced human being. There was a Puckish quality in Mitchell reflected in his youthful (and enduring) love of paradox. Even in his advanced years he could view with impish glee Irving Fisher's soberly framed rules of health; he used tobacco with special gusto because Fisher banned it. He enjoyed the play of Veblen's scalpel,

¹⁰ There is no one source in which Mitchell's views on economic theory are set forth in rounded form. Certain of his essays deal more explicitly with these matters than do his extended works. Three papers reprinted in *The Backward Art of Spending Money and Other Essays* are of direct interest: "The Role of Money in Economic Theory," *American Economic Review*, Supplement, March 1916; "The Prospects of Economics," from *The Trend of Economics*, edited by R. G. Tugwell, 1924; "Quantitative Analysis in Economic Theory" (Presidential address delivered at the 37th annual meeting of the American Economic Association), *American Economic Review*, March 1925.

To these we might add "Wieser's Theory of Social Economics" (*Political Science Quarterly*, March 1915; also reprinted in *The Backward Art of Spending Money and Other Essays*). In expounding Wieser's theory, Mitchell makes clear many of his own ideas on the scope and character of a useful body of economic theory.

Not explicitly devoted to theory, but of high significance for the light they throw on Mitchell's basic conception of theory, are chapters on institutional settings in his 1913 and 1927 books on *Business Cycles*. In the earlier book the chapter is entitled "The Economic Organization of Today"; in the later, "Economic Organization and Business Cycles."

Mitchell's opinions as they stood in 1918 were rather systematically, although informally, developed in the terminal lectures in his course on Types of Economic Theory, in which he propounded a modern ground plan for economic theory. Notes on these lectures exist, but they were never edited by Mitchell, or approved by him. In these lectures Mitchell sketched a general framework in which economics was presented as one of several sciences of human behavior, the special concern of economic science being the growth and present functioning of economic institutions. Into such a framework all the traditional types of economic theory, as well as types involving other approaches to the study of economic institutions and processes, could be fitted, in Mitchell's view. Most of the orthodox theories, for example, would fit into such a scheme as studies of the logic of pecuniary institutions.

dissecting and undercutting pretentious systems of thought. But his mind was not essentially that of the skeptic, and particularly not that of the mocking skeptic. Having no pretense himself, he could be scornful of pretentiousness. But there was no scorn for honest endeavor, whether successful or not.

Mitchell found deep satisfaction in his home life. He and his wife shared an interest in education, and sponsored one of the most fruitful of the experiments that helped to break the education of the young out of the molds of nineteenth-century custom. He joyed in the companionship of his children. In their New York home and at Huckleberry Rocks, in Vermont, there was a healthy, wholesome family atmosphere. The children were partners of the parents in the life of the Mitchell household. At Huckleberry Rocks, too, there was a workshop to warm the heart of one who respected the arts of woodworking. Here Mitchell could indulge to the full his love of fine craftsmanship. He was as skilled and honest in the tasks of cutting, sawing and fitting a delicate piece of inlay work as he was in assembling economic observations and fitting them into a meaningful structure. Here, also, was his study, with contents ranging from scholarly tomes and slim books of verse to the latest detective fiction, of which contrivances Mitchell was a connoisseur. In this home, in its activities and interests, its responsibilities and its joys, there were wells of contentment for Mitchell. Here were some of the deep sources of his strength.

Wesley Mitchell's life was a full life and he was, in truth, a whole man. He found in life the abiding satisfactions that go with integrity of mind, generosity of spirit, and service to a cause that can draw man out of himself and beyond himself. In his life's work Mitchell served the human race. In his own being he helped to give dignity to that race.

FREDERICK C. MILLS

New York, N.Y.

Harry Alvin Millis 1873-1948

In the opinion of most who knew him personally and of the many more who knew him through his work alone, Harry A. Millis was a man of great and uncommon wisdom. He was a distinguished scholar, a skillful administrator, a creative and judicious arbitrator, and, without peer, a builder of men. Through his teaching, his scholarship, his decisions as an arbitrator, as a quasi-judicial official, as an administrator and an adviser on important matters of national economic policy, he exerted a healthy influence upon the lives of men and women in all branches of his society. Union leaders, company officials, workers in clothing plants, auto plants, print shops, workers in government, lawyers, university professors, students—all looked upon him with respect and admiration—and many with deep affection. In the field of industrial relations Millis will probably go down in history as the person, of his time, with the greatest number of friends and fewest enemies.

Those who knew and worked with him will probably never forget him—the way he looked, his voice, his laugh and the things he said. He was a big man—over six feet tall and his bearing was that of the athlete he was in his youth. When he walked, he walked slowly, looking neither to the right nor to the left, and as one recalls, he seemed forbidding, impressive and remote. To a few he was “Hank”; to most (and not always behind his back) he was “Pop”; to others, affectionately, the “Boss.” He could be firm, gruff, and on rare and merited occasions angry; but he was gentle, humorous, and an incorrigible sentimentalist, his grumbling resistance to the contrary notwithstanding. He loved a good story and a pointed anecdote, and his own were pungent and Hoosier-flavored. “Kid stories” featuring his grandchildren were worth repeating and remembering. He was always a great sports enthusiast, a lover of games, and a college football fan. Even toward the last, he and his grandson, “young Harry,” spent long minutes of hospital visiting time debating the relative merits of major league ball players.

It was a familiar sight at Chicago to see his students lining up outside his door after those eight o'clock classes that began his long days, as they came for advice or to report progress. No matter where his office, or how impressive the appointments, those who knew him will remember the characteristic corner of it which he inhabited, the great robust figure surrounded by clouds of pipe-smoke and high jumbled piles of books and manuscript, press releases, and miscellaneous publications that encroached upon his work-space. They will remember the twinkle of the brown eyes, the gruff manner and the slow reassuring smile. They can still see the long, large, tapered fingers and how they would reach in the vest pocket for a match, strike it under the center desk drawer, and as it flared, bring it up to the insatiable pipe. Some said he smoked matches instead of tobacco. They will remember how the smoke from the puffing pipe would become thicker and how the match would be waved out and then flung in the general direction of the waste basket, to land, with most of its fellows, on the floor. They may remember some of his favorite expressions—“meaningful,” “stout” which he insisted was better than “staunch,” “awfully,” and the sharp quick “yes!” when he agreed enthusiastically with a point made; and they may remember some of his favorite and most revealing compliments—“all wool and a yard wide,” “a horse for work,” and “clean as a hound’s tooth.”

Millis received his undergraduate degree at the University of Indiana in 1895, his M.A. in 1896, and took his doctorate at the University of Chicago in 1899. From 1902 to 1916 he taught at Arkansas, Stanford, and Kansas Universities and then in 1916 joined the faculty of the University of Chicago. In 1928, he became chairman of the economics department and held this position until he retired from the faculty in 1938. He was president of the American Economic Association in 1934-35, director of the National Bureau of Economic Research, and a founder and director of the Agricultural Economics Foundation.

During most of his academic career he was engaged in some kind of public service. He participated in the U. S. Immigration Commission’s study on *Immigrants in Industry*, published in 1911, and directed a study of

health insurance for the State of Illinois in 1917. From 1919 to 1921 he was chairman of the Trade Board of the Chicago Men's Clothing Industry and from 1921 to 1923 and 1937 to 1940, chairman of the Board of Arbitration. Of this work Mr. Potofsky, president of the Amalgamated Clothing Workers once wrote, he "helped take the clothing industry out of the sweatshops and the industrial jungle." He was a member of the first National Labor Relations Board from 1934 to 1935 and was appointed by the President to several fact-finding boards on railway labor disputes. He was also appointed by Governor Horner of Illinois to be a member of the Illinois Commission on Unemployment. He made his influence felt in the writing and development of the National Labor Relations Act and the Social Security Act and in setting up the framework for the National War Labor Board.

In 1940, sources close to the White House urged him, in the President's name, to accept a position as umpire under the General Motors-UAW, CIO agreement. Since this was the first permanent umpire set-up in the newly organized mass production industries, it was extremely important that it be filled by the best man available. It was a position requiring scrupulous honesty, delicacy, tact, and the creative imagination to lay the groundwork for sound future relations. Millis held this position only a few months, but the groundwork was laid; today officials of the corporation and the union still speak of his wisdom and his fairness. He charted not only the future of relationships at General Motors but made arbitration respectable in mass production industries generally, and set the pattern for other companies and industries.

He had been umpire for only a few months when the President called him again, this time to become chairman of the National Labor Relations Board. More than once he said of this appointment, "I was dragged into that job by the President; I certainly was not a candidate for membership on the Board, much less the chairmanship." But his administration was marked by wisdom and fairness, as always, and when he resigned in June, 1945, because of failing health, it was from a Board whose reputation had grown through his service.

In the fall of 1945 he returned to the University of Chicago to become senior adviser to the newly formed Industrial Relations Center and to begin his analysis of the development of recent national labor policy. As co-author with one of his former students, Professor Emily Clark Brown of Vassar College, he had nearly completed a monumental volume, *From Wagner Act to Taft-Hartley: A Study of National Labor Policy and Labor Relations*¹ when he died on June 25, 1948, "with his boots on," as he had always hoped.

Although Millis is best known for his works in the field of labor, his major interest as a young man was public finance. As a contemporary of Seligman, Bullock, T. S. Adams, Hallander, and a few others who pioneered in the United States, he participated in the organization of the National Tax Association in 1907. While a young assistant professor from Leland Stanford University, he wrote a paper on "Business and Professional Taxes as Sources

¹ To be published by the University of Chicago Press in 1949.

of Local Revenue," arguing for more extensive use of such taxes as a supplement to levies on property, "so as to prevent these from becoming unduly burdensome." In the evolution of state income taxation, Simeon Leland points out, no one made a clearer diagnosis of the defects of the early laws and practices. It deserves, in Leland's opinion, a better place in the literature of state income taxes. It antedates both the work of Seligman and T. S. Adams in that field.

Even in these early years his work was practical and pioneering. At a time when scientific tax assessments were just being developed, Millis had his hand in making one, sleeves rolled up, doing, as usual, more than his share of the work. In Palo Alto, where he was then living, the general property tax was operating no more fairly than elsewhere and the tax roll was characterized by all sorts of assessment inequalities. Millis thought he could eliminate some of them. With the assistance of a local banker and building contractor, the three men rode over the city in a surrey estimating the land values and the cost of constructing the buildings in the town. The latter were reduced to the square foot or cubic basis which the contractor used in bidding for jobs. The result was a much better assessment than ever before—one substantially just as between neighbors. Rumor has it that this "revaluation" lasted for a considerable period.

Even after he transferred to "labor," Millis continued his interest in public finance. He was a keen critic of whatever he read and many students are in debt to him for suggestions from his early field.

Millis' writings are, of course, landmarks in the field of industrial relations. In a field where the rapid course of events makes writings unusually perishable, the three-volume series on the *Economics of Labor*, written in collaboration with Royal E. Montgomery of Cornell University, still constitutes the most authoritative and comprehensive analysis of modern labor economics for the period covered. The industrial studies in *How Collecting Rarefying Works*, which he planned and edited for the Twentieth Century Fund, set the pattern for a great many of the case studies now being developed in the field. His last work, on the policy implications of the Wagner and Taft-Hartley Acts, done in collaboration with Miss Brown, is in press. There is little question, however, but that it will have a profound effect on the development of future national labor policy.

His work—his scholarship and his wisdom—is undeniably preserved in his published writings, though admittedly much that is eloquent appears in his unpublished arbitrations. But it is preserved perhaps even more in the influence which his broad and humane philosophy exerted upon all who were privileged to work with him or under him, whether student, colleague, or official of management or labor.

People called him a man of sound common sense. But it was more than that. At the core of all he did was a deep pervading respect for his fellow man, a sense of responsibility, and a sense of justice. He believed he must do all he could to make individual achievement possible and to free individual capacity from the limits set by meager opportunity. He was generous, he sought to understand and he sought to help; but his rocklike sense of justice never

let personal interest, bias, or affection tilt the balance in favor of one individual or group over another.

He was a man of great humility and great modesty. He went out of his way to avoid credit, publicity, or public recognition and he recoiled from all that he felt was display—whether it was the wearing of his Phi Beta Kappa key or the periodic revision of the honors rendered him in *Who's Who*. Throughout his life he felt himself deeply indebted to his beloved, brilliant, and poetic wife whose intense sympathy and sensitivity supported his convictions and shone in his work.

He had a passion for truth, for the whole of it, and for common sense in its application to the solution of problems. As a scientist and a liberal, he was tolerant of much but never tolerant of dishonesty. He was a statesman and, as one of his colleagues once phrased it, a man “of wise judgment as to the mode by which and the rate of speed at which aspirations can be converted into attainable realities.”

He was always willing to listen with sympathy and understanding to the problems of the numerous students under his direction as well as to those in other fields of economics who came to him as chairman of the department for a friendly word and a guiding hand. Yet he never sought to pry. “*Millis*,” the saying was, “*knows you have to eat*,” (and *Millis* frequently made eating possible). He was never too busy to give encouragement to any man or woman, whether student or young instructor. He was never so heavily loaded with work that he could not talk about the department, about research, about a personal problem, an idea, or a manuscript. He was never too busy to hear delightedly of the adventures of a young researcher getting his first taste of field interviews or of discovering exciting documents in union archives. When most harassed, he had time for a story or an anecdote that a student's encounter with Victor Olander or John Fitzpatrick had brought to mind. He felt all this, and the long hours that went with it, was his teacher's duty and he loved it all.

In later years many of his students wrote to him of how he had inspired them with new courage and ambition when the future looked bleak, how he alone had given them encouragement, and how he had been an oasis of friendliness, warmth, sympathy, and understanding.

He was forever willing to place other people's worries, other people's merits, the claims of other people's scholarship ahead of his own interest and his own health. This combination of sympathy and realism—this emphasis upon the use of concrete evidence in finding the solution that would make the “wheels go round,” appears in all he did, in his instruction, his guidance of graduate students, his work in public law, even his recommendations on behalf of individuals.

In his teaching he expected his students to base their conclusions on concrete knowledge of how unions and business firms actually operated. Case studies of labor relations in particular industries and detailed studies of the character and effect of public policies assumed, therefore, singular importance. Union leaders and employers were brought to class to talk and to be

questioned; classes were taken to attend arbitration proceedings; and students were encouraged to attend union meetings. Students were expected to become familiar with the literature (and many of his students remember the voluminous bibliographies he provided), to carry on their own investigations, and to do extensive field work so as to broaden the base of factual knowledge and to enrich their understanding of it. He never seemed to enjoy abstract or theoretical reasoning. Indeed, wherever he dealt with abstract values and relationships, he painted his design with a broad brush. And yet he paid theory his respects in his teaching and put flesh upon its bare bones by illustrations from his rich experience.

His influence as a teacher, however, extended beyond those who specialized in his chosen field. At a time when labor unions were largely suspect, his thoroughness, his dispassionate honesty, his forthright and simple presentations of both sides opened his students' eyes and left many of them with a sense of social responsibility that enriched their later lives.

This same sympathy and realism he manifested as chairman of the economics department at the University of Chicago. At the time, some of the departments of that institution were run by their "heads" with an iron hand with little or no participation by other full professors. The opportunities for dictatorship and less than frank discussions of policies, personnel, and budget by colleagues of equal rank were numerous indeed. But under Millis, the men of full rank settled their common destinies, a factor which greatly added to the strength and prestige of the department. When men became professors, Millis handed them the budget and other documents pertaining to their collective affairs. There were no secrets, no feuds, and men dealt fairly with each other, aided by his impartial justice and sound judgment. He inspired leadership and confidence in his staff; they swore by him just as he stood up and fought for them.

His emphasis upon concrete fact and his judgment perhaps reached their maturest expression in his career as an arbitrator and as member of the first and chairman of the second NLRB. Millis was in his time perhaps the country's greatest arbitrator. He impressed both management and labor with his scrupulous fairness, his incorruptibility, and his ability to make a decision that would work. He made his decisions, he would say, like Bill Klem, the famous baseball umpire, "I calls 'em as I sees 'em." He believed that the arbitrator must direct his efforts to working himself out of a job. The greater the number of cases a permanent arbitrator was called upon to decide, the poorer, Millis felt, the arbitrator was. Millis believed that collective bargaining was designed to establish a rule of law in industrial relations and that an arbitrator or impartial chairman was useful, especially at the beginning, to help clarify the law and make plain the way it operated. And all his efforts were directed to having the men and women in industry settle their disputes themselves, once the law was plain, by following it, rather than by resort to arbitration or to government. Yet he never made his rulings or discussed his cases in terms of abstract rights or prerogatives either of management or of the union. He dealt always with the facts and specific issues in each

case and, at some stage of the proceedings, could usually be found in the plant, inspecting the machinery and talking with those who operated it. By analysing and developing the facts carefully and relating them to the provisions of the agreement or the law, he avoided futile debates about prerogatives and, as a result, was successful in developing, on the part of both sides an understanding of what they had to do if they wanted to get along together.

In later years, when he was arbitrator in the Chicago clothing market, he had an understanding that he did not have to decide a case if he thought the people could settle it for themselves. One of many such cases involved the discharge of a cutter in one of the clothing plants. Millis thought there were plenty of precedents by which this case could be settled and refused to take it. When representatives of the management and of the union came to see him, he told them that the manager of the company involved and the responsible official of the union both knew the agreement and the precedents and both knew what to do in a case of this kind. Accordingly, he sent the representatives back to tell the manager and the union official to settle the case according to their own knowledge. They did just that and the case never came back to him for decision.

The cooperative labor relations which he stimulated wherever he arbitrated had their roots in two fundamental principles. Millis believed that unions must have sufficient power to meet their responsibilities under collective agreements. In his arbitration cases, therefore, he worked to strengthen unions in this respect and made plain to employers that such was his intention. He believed also that employers must have sufficient flexibility to handle their affairs and enough power to get their work done efficiently without undue interference from the union or from the workers. He was a stickler for the management's being able to get its work done efficiently and being able to get the quantity and quality of work to which it was entitled.

In recent years he was disturbed by the trend towards high arbitration fees. He always remembered that half of the arbitrator's fee or salary came from working people, whose earnings were meager. When he agreed to become the umpire for the UAW, CIO and the General Motors Corporation under the terms of their collective agreement, he was offered, and refused, a large salary. He explained that he wanted only enough to live on, which was about what he had been earning at the University.

His service at the NLRB from 1940 on was perhaps his most trying and demanding, and yet it seems very likely that it was the crowning achievement of his career. It was his opportunity to administer an act which to him was the "foundation for much that is helpful in our civilization as it develops." He felt intensely that the act housed "values to our nation in economic, social and communal terms"—not only in better wages, hours and working conditions, but reduced turnover, increased stability, job security, and above and beyond all this, "industrial democracy or real representative government."

On his retirement from the Board in 1945 he intended to develop more fully and document these views on the significance of the Wagner Act. The

passage of the Taft-Hartley Act the next year intensified and broadened his purpose. In his last research with Miss Brown, he sought, therefore, to bring all his rich experience to bear on an analysis and creative criticism of our national labor policy.

Here again, in this last work, and perhaps more explicitly than ever, appear those concepts and that philosophy which had colored all his work though the years. Here he stated his belief in the importance of "responsible self-government in industry" as the "main, continuous, and needed support of responsible, intelligent, representative government in the body politic."

Here he emphasized again that the plant, rather than the court, was the place where most problems could best be solved, for "industrial relations have to do with problems involved in living and working together." He looked upon the solution of labor disputes much as one would look upon the solution of marital ones. Just as the divorce court appears only in extreme instances in the solution of marital difficulties, so too, Millis writes, should litigation appear only rarely in the solution of industrial disputes. "Losses in court fights in the field of industrial relations," he wrote, "may not, indeed frequently do not, end with the close of the suit."

Believing deeply as he did in the fundamental honesty and fairness of human beings, he sought for conditions which would promote these values. His experience in arbitration and at the NLRB had yielded ample instances of deficient responsibility among union officials and members and among employers. "On the other hand," he wrote, "most experienced men have a sense of fairness when they come to know the facts. The problem is how to make a sense of fairness and responsibility more general. What will assist in effectuating, and what will militate against, this end?"

And in spite of his discouragement over ~~some of the~~ ^{governmental} labor policy, his last work reflects his continuing confidence that something could be done about difficult problems "without the effort necessarily begetting problems which outweigh the good effected." He spoke of his conviction "that cooperative thought and action on problems by those most directly concerned with them can accomplish much." Concretely, he thought that some of the difficult and controversial issues dealt with in the Taft-Hartley Act could have been, and should still be, worked out in conference under government auspices by the representatives of employers and labor and the public. Then government could play its proper role of providing the conditions under which the parties in industry could and would, in all but very exceptional cases, solve their own problems by democratic means, with due regard for the public interest.

He would doubtless have been encouraged by the startling redirection of national labor policy which occurred after his death. It is unfortunate, to say the least, that the country could not have benefited by his wisdom in that policy's formulation. Yet surely much that is good in it bears the imprint of his philosophy. And surely not a little of the hope for healthy relations in industry, for honest and creative bargaining, for wisdom and justice in administration, and for honest and creative scholarship, has its basis in his

influence. For the Millis wisdom has taken deep root in industry, in scholarship, and in the minds of those who draft our national policy. And its wholesome and humane effect will persist in men and women—in those who knew him and those who were affected by him—over the years.

EMILY CLARK BROWN

PAUL H. DOUGLAS

FREDERICK H. HARBISON

LOUIS LAZAROFF

WILLIAM M. LEISERSON

SIMEON LELAND

BOOK REVIEWS

Economic Theory; General Economics

Économie et Intérêt: Exposition Nouvelle des Problèmes Fondamentaux Relatifs au Rôle Économique du Taux de l'Intérêt et de Leurs Solutions. By M. ALLAIS. (Paris: Imprimerie Nationale. 1946. Pp. 800.)

The author of *Économie et Intérêt*, M. Allais, is professor of general economics at the National School of Mines in Paris, and of economic theory at the Statistical Institute of the University of Paris. He is also chief engineer of the Corps des Mines.

His book is at once a piece of research, a textbook and a tract on social and economic policy. One of its distinctive features is its abstract and mathematical character. Although basic calculus is sufficient for the argument in most of the main text, a somewhat more elaborate but standard equipment is required for the argument in the technical appendices, which comprise 140 pages.

The outstanding weakness of this work arises from the fact that the author is not well acquainted with the Anglo-Saxon and Scandinavian literature. Notwithstanding the fact that much of his thinking is based on the writings of Irving Fisher, the only other modern Anglo-Saxon economists with whose work he is acquainted are J. M. Keynes and J. E. Meade. (There is also a reference to one article by J. R. Hicks.) There is no reference to Knut Wicksell's work, despite the fact that the author's cycle theory is almost identical to that of Wicksell. The implications of this limitation are obvious. The author has missed the basic modern contributions to the theory of interest, with the exception of the work of Keynes. Only too often he arrives independently at conclusions which for a long time have been part of the stock-in-trade in English-speaking or Scandinavian countries.

Following a long introduction which deals with basic concepts, definitions, and the mathematics of compounding and discounting, the author presents what amounts to a theory of interest rate determination in a real, stationary economy. In this basic economic model, money exists only as a unit of account, not as a medium of exchange. Credit transactions and even banks are present, but there is no circulating money. This construction enables him to introduce money into the picture, but to eliminate its "disturbing" effects. In such an economy investment and savings are functions of the rate of interest, and determine between them its equilibrium level. The conclusion is obvious, but the analysis leading to it is elegant and interesting.

Having completed the study of interest rate determination in a real, stationary economy, the author plunges into welfare economics. His two chapters on "Interest and Social Return" and "Interest and Social Productivity" constitute the foundation for his policy recommendations. It is unfortunate that here again the author does not seem to be acquainted with important contributions. Pareto and J. E. Meade seem to be his only sources. There is no

mention of Barone, Pigou, Hotelling, or A. Bergson. This omission turns out to be particularly serious, since his fundamental conclusion, that social product is a maximum when the rate of interest is zero, is ill-founded. Following Pareto's concepts he argues that social revenue is maximized under perfectly competitive conditions. This optimum position is not unique. The optimum points constitute a manifold infinity of values, corresponding to alternative distributions of income among individuals. He proceeds, then, to extend the proposition to the case of a dynamic but stationary economy. He argues that the time-shape of consumer expenditures is arbitrary from a welfare point of view. Individuals maximize their welfare with reference to a single point of time. Notwithstanding the fact that they take into account future satisfactions, they evaluate them with reference to the present. It can be seen, therefore, that in the general case (which includes both static and dynamic stationary states) the optimum points constitute a manifold infinity of values, corresponding to alternative distributions of income among individuals and to alternative time-shapes of consumption. For any given distribution of income and time-shape of consumption, perfect competition is optimal. His modification of Pareto's argument is merely an expression of his view that, although individuals are capable of making correct decisions in allocating their expenditures among competing goods and services in the present, they are incapable of making correct decisions with respect to saving. This conclusion is essential to the author, since it paves the way for his policy proposal that capital formation be determined by responsible government action rather than by free choice.

Next the author takes up the problem of optimum capital formation. Among all the stationary economies which satisfy the conditions of maximum social product, but the capital equipment of which is variable, there exists only one which satisfies the conditions of optimum capitalistic structure. Social product may be said to be a maximum only in this case of optimum capitalistic structure. This *maximum maximorum* obtains only when the rate of interest (in the production sector) is equal to zero. The author's proof of this proposition is not satisfactory. By treating units of factor services of the same kind, but performed at different periods of time, as homogeneous and interchangeable, he arrives at the conclusion that the presence of a positive or negative rate of discount prevents optimum allocation (which calls for equality of marginal products in different uses). A correct, generalized statement of the conditions of maximum product would have led to the conclusion that no single rate of interest is implied.¹ This position of the author is particularly unfortunate, since a great part of his policy platform is based on the assumption of the desirability of a zero rate of interest in the production sector.

The analytical climax and anticlimax of the book is reached in Chapter VIII where the author introduces circulating money into the picture. The performance of the author in this chapter is impressive, although uneven.

¹ See Paul Samuelson, *Foundations of Economic Analysis* (Cambridge, Harvard University Press, 1947), p. 233, note.

The demand for cash-balances is very aptly introduced into a model of economic unit behavior. The analysis runs essentially in terms of liquidity preference along Keynesian lines.² The author arrives at an integration of the savings-investment with the liquidity-preference theories of interest along lines which are generally parallel to the loanable fund theory. His construction, however, is entirely independent of the contribution of the Swedish school or that of D. H. Robertson, with which he does not seem to be acquainted.

The transition from the "unit of account" economy to a true monetary economy is not made abruptly but by successive approximations. The equilibrium and stability conditions of a monetary economy, in which demand for speculative cash-balances and money creation by the banking system are absent, are formulated first. For this type of economy, and as a first approximation, the rate of interest may be thought of as being determined by the propensities to invest and save, the price level being determined by the volume of cash-balances desired at this rate of interest. Monetary equilibrium is essentially defined in terms of the equality between the "pure" money rate and the "pure" claims' rate of interest. This equilibrium is stable. Any deviation from it generates forces that equalize the two rates.

Finally, the author turns to the case of a monetary economy in which both demand for speculative cash-balances and money creation by the banking system are present. This is the acid test of the book. The reader has gone through 360 pages concerning all types of simplified economies, and at long last he is ready to follow the author through the labyrinths of a full-bodied, down-to-earth economy. Unfortunately the author fails to lead through these labyrinths; he merely by-passes them. This is the anticlimax of the whole performance. The author argues that equilibrium conditions are roughly identical to those of the 100 per cent money, no-speculative-cash-balances economy. But equilibrium here is unstable. Any difference between the money and claims' pure rates of interest starts a cumulative process away from equilibrium, which comes to an end, in either direction, for reasons similar to those advanced by Wicksell in his *Geldzins und Güterpreise*. The analysis of the dynamics of disequilibrium is highly unsatisfactory. The author suddenly becomes a "literary" economist and is satisfied with vague generalities about a process which his technique is incapable of depicting. His micro-economics does not furnish him with tools adequate to deal with issues which even a simplified macro-static or macro-dynamic model could easily handle.

The upshot of the author's analysis is that money creation by the banking system and speculative cash-balances (thesaurization) are the determining causes of the instability and the cyclical behavior of our economic system. The implications for economic policy are obvious. Hundred per cent money and elimination of speculative cash-balances will stabilize our economy and eliminate cyclical fluctuations.

The final part of the manuscript deals with policy. The major objectives

² It must be stated emphatically, however, that liquidity preference is the only tool taken over from Keynes' *General Theory*.

are maximum social revenue and product and price stability. These objectives can be accomplished, the author argues, by *competitive planning*. Such planning would deal with structure rather than behavior, behavior being coordinated through the price system in a perfectly competitive economy. This structural planning involves at least the following measures: (a) a curb on monopolies; (b) a zero rate of interest in the production sector; (c) 100 per cent money; (d) elimination of the demand for speculative cash-balances.

Concerning the first item, the "competitization" of the economy, the author is very vague. In fact he does not deal with it. Here again he seems to be unacquainted with the contributions of Oscar Lange and Abba Lerner. Concerning the zero rate of interest in the production sector, as well as the elimination of the demand for speculative cash-balances, he has some definite proposals to make. The rate of interest cannot become zero unless land is collectivized, since land-values become infinitely great as the rate of interest approaches zero. But this is not all, because, in so far as the unit of account is also circulating money, the demand for cash-balances becomes very great if not infinitely great as the rate of interest approaches zero. Not only must we collectivize land, then, but we must also curb the demand for idle cash-balances. This can be accomplished by a continuous devaluation of the value of circulating money in terms of a stable unit of account. A separation of the two functions of money is a prerequisite for the simultaneous achievement of price stability, a zero rate of interest, and the elimination of speculative cash-balances. It still is possible, of course, that spontaneous saving may not be sufficient to bring the rate of interest down to zero. The government can correct this by appropriate action, which may take the form of incentives or taxation.

This air-tight, no-interest, no-profit, 100 per cent-money, perfectly competitive economy constitutes the author's policy goal. One cannot help having an uneasy feeling that the author is developing a policy for a never-never land that has few if any similarities to the world around us. The author shows very little understanding of the forces and the mechanism of economic development. He makes a fetish of stability, and has taken extreme pains to build a strait jacket for an economy that does not fit his views.

The author's contribution to the theory of interest would be significant were it not for the fact that most of his results have been available in acceptable form for some time now. It is a pity that M. Allais has worked so hard to arrive independently at some conclusions already well established. In fairness to him, it must be recognized that he has attempted a task of great magnitude, and that he has handled it with unusual skill.

A. G. PAPANDREOU

University of Minnesota

Economic Analysis. By KENNETH E. BOULDING. Rev. ed. (New York: Harper. 1948. Pp. xxvi, 884. \$5.00.)

In reviewing the second edition of a book as well known as Professor Boulding's *Economic Analysis*, the reviewer must confine himself to discussing what is new in the new edition. There are few straightforward additions of

new material, however, and the main change is one of approach. In the new edition, the chapters on money, banking, and international economics of the first edition have been partly changed and partly expanded into an integrated discussion of macroeconomics. This change has necessitated a very welcome reorganization of the book, which now consists of four parts. Part 1, on Supply and Demand, consists of the first twelve chapters of the old edition with only minor changes; Part 2 contains the new approach to Macroeconomics; Part 3 on Marginal Analysis incorporates the more elementary chapters of the similarly entitled 2nd part of the first edition; while the more difficult chapters have been taken out and assembled, together with some additional material, in Part 4, called More Advanced Analysis.

Professor Boulding's handling of macroeconomics is up to his usual high standards. He begins by pointing out the limitations of partial equilibrium analysis and the need for an aggregate approach, showing that "many propositions which are true of individuals or of small groups turn out to be untrue when we are considering the system as a whole" (p. 260). He gives an excellent discussion of aggregate concepts (Chaps. 13 and 14); he shows the fundamental identity between aggregate receipts and expenditures (Chap. 15); he introduces sequence analysis to prove the possibility of underemployment equilibrium (Chap. 15); and he discusses problems of national economic policy (Chap. 19).

All this is admirably lucid and very well done; but it provides only the skeleton of macroeconomics, while other parts of the book contain quite a lot of meat. This asymmetry would not be disturbing if the main purpose of the book were to provide the tools of partial equilibrium analysis and the discussion of macroeconomics were aimed merely at showing the connection between partial and aggregate analysis. But the author quite obviously aims at a complete coverage of all fields of economics; and by the standard of his aims there is a lack of balance between his detailed partial equilibrium analysis and his "sketch of macroeconomic principles."

To some extent this is unavoidable and explained by the relatively recent emergence of macroeconomics as a subject. (The author himself, who is aware of this lack of balance, explains it in this way.) But to a large extent it is also due to Professor Boulding's insistence on discussing macroeconomics on the same high level of abstraction and general validity on which he discusses the theory of consumer's choice and the firm's production function. This lends formal elegance and neatness to the discussion; but it causes both author and reader to overlook the main advantage of aggregate analysis: our ability to say more about the behavior of a large group than about that of an individual. It is the very essence of macroeconomics that, because group behavior is more regular than the behavior of any single member of the group, we can establish statistical laws and make specific statements about a nation's reaction to a change in incomes, or prices, or liquid asset holdings, while we can make only very general statements about the individual's reaction to the same changes.

This is not brought out at all by Professor Boulding. His discussion of the multiplier concept and the consumption function is implicit and hidden in

footnotes and examples. He mentions the parallel movement of consumers' expenditure and business investment in the interwar period as the basis of the "Keynesian view"; but he does not discuss it and warns that "conclusions must not be drawn too hastily as to the nature of the causal relationships involved" (p. 404). There can be no doubt that we are very far from a complete understanding of these statistical relations and that hasty conclusions have been drawn; nevertheless, a fuller discussion of these concepts and relations, with due warning of our rudimentary knowledge of them, would have been preferable to the author's refusal to discuss any statistical law.

Most of the other changes in the book are contained in Part 4. There is a new chapter on indifference curve analysis (Chap. 34), which applies this technique to problems of taxation and the measurement of the gain from trade. The latter is expressed in terms of the buyer's and seller's surplus; and while the discussion is clear, it is not simple and makes one wonder why the author did not use the much simpler approach of superimposed indifference maps. Another important addition is a new discussion of investment in the individual firm, contained in Chapter 36. This chapter now constitutes by far the best introduction to modern capital theory known to this reviewer. It contains the essence of the controversy between the Austrians on the one hand and Wicksell, Knight and Kaldor on the other; and it should be read by every student of capital theory. The book also contains a new section on the theory of profits (in Chapter 37) and a very good new appendix on the literature of economics.

In general, the new edition is an improvement over the old; and the book remains, in the reviewer's opinion, the best text on partial equilibrium analysis at the intermediate level. Its coverage in this field is amazingly complete. It contains the best discussion of the theory of production in the English language, the only detailed discussion of the behavior of the individual worker, and the clearest statement of the fundamentals of capital theory. Owing to the omissions discussed above, the new edition is not a "Principles"; but the days of the "Principles" are probably past beyond recall. I doubt very much if today it is either feasible or desirable to deal with the whole body of economics in one volume on any but the beginner's level.

TIBOR SCITOVSKY

Stanford University

Grundlagen der Theoretischen Volkswirtschaftslehre. By HEINRICH VON STACKELBERG. (Bern: A. Francke. 1948. Pp. xvi, 368. 19.50 sw. fr.; cloth, 23.50 sw. fr.)

This is the last work of the well-known German theorist. His untimely death, at the age of 41, occurred in October of 1946 while he was visiting professor of the University of Madrid. The book, completed by the author, appeared first in Spain shortly before his death. The German manuscript was published last year in Switzerland under the editorship of Professor Valentin F. Wagner who contributed a preface to the book.

The present "Foundation of Economic Theory" is a revised and greatly enlarged edition of the former "Outline of Economic Theory." This earlier

book appeared in Germany in 1943. It practically remained unknown because almost the whole edition was destroyed in an Allied-air raid. Both books are limited to the theory of micro-economics. There is no trace of the influence of Keynes. Generous tribute is paid to the works of Eucken, Hicks and Allen, Amoroso, Chamberlin, and Triffin. Other contemporary American writers are not mentioned.

The book is carefully organized; its presentation is exceptionally clear. All important theorems are presented in their algebraic and geometric forms, usually accompanied by further explanations in small print. The literary style is appealing; sentences are relatively short. Candidates for degrees will find it worth their while to select this book as a text for their language requirement. They will not only learn the German economic vocabulary but also review modern theory for their departmental examination. For the book is written as a text for students, a bit above the level of seniors. In its logical consistency and in its mastery of the principles, the book compares favorably with the respective texts in this country, as a review of its leading ideas will indicate.

The new book is divided into six parts. Part One (pp. 1-28) describes specialization, the circular flow, Fisher's equation of exchange, and a stable price level as the framework of the static economy. Part Two (pp. 29-104) deals with the theory of production, as well as the problem of time in production. Part Three (pp. 105-60) gives the theory of the household, considering income, demand, and savings of the household as well as its reactions to changes in prices and incomes. The theory of prices constitutes Part Four (pp. 161-256). Discussion of prices under perfect competition, monopoly and oligopoly is supplemented by governmental price regulation, and auxiliary price factors, like inertia and cartels. Part Five (pp. 257-332) comprises the theory of distribution. Rents, wages and profits receive relatively less space than the theory of capital and interest. An evaluation of the role of perfect competition as the organizing principle of the modern economy concludes the book.

Contrary to tradition, the author begins his book with the theory of production of the firm. Central to his theme is the principle of diminishing returns. It is presented in its modern form of total, average, and marginal returns as well as the rate of substitution and complementarity. The principle of marginal productivity is even applied to money. Expressing the value of the marginal products, in terms of a stable money unit, the author speaks of the principle of the "weighted marginal productivity" and presents the "principle for the equalizing of the marginal returns of money." When applied to the firm, the principle of weighted marginal productivity determines the demand, the principle of marginal cost determines the supply for the factors of production. In an equilibrium situation, the price of factors of production is then equal to the values of these marginal quantities. In discussing cost, the author translates returns into cost concepts. Increasing returns indicate declining cost. The principle of diminishing returns is thus the obverse of the law of increasing marginal cost. Cost and return concept are thus correlated and both together explain the behavior of the firm in a static economy.

The revised edition brings a new chapter on the element of time in pro-

duction. Böhm-Bawerk's theory of increased productivity through the choice of more roundabout methods of production is translated into a marginal principle. Stackelberg maintains that the element of time is governed by marginal productivity, if this principle has been properly refined. Hence, the author develops his principle of diminishing marginal productivity over time. This was published in an article in 1941 and the book contains only an abbreviated version of the principle. A producer, the author assumes, has a distinct plan for each act of investment. He compensates factors according to their discounted marginal values. The producer's most favorable period of production is obtained when the percentage increase in the marginal productivity of the respective factor is proportional to the equilibrium rate of interest. The rate of interest is thus not only a measuring rod of the respective periods of production but also of the marginal productivities of factors over time.

The author examines the merits of the marginal utility and indifference theories in his discussion of the household. For him, the indifference theory has to replace the first law of Gossen because utilities are subjective; it is neither possible nor necessary to measure them. However, the second law of Gossen is accepted as a tested fact and translated into the "balance equation" of the household in which all the marginal utilities are of equal value. (In comparing the marginal rate of substitution with marginal productivity, Stackelberg suggests two new technical terms. The curves of equal returns from factors, called *isoquants* by Frisch, are given the Greek name *isophores*; the corresponding curves for products are dubbed *isotimes*). Under the heading of saving of the household, the element of time is analysed similarly to the one in production. In arranging his streams of income so as to obtain equal satisfaction in each income period, the consumer acts according to the marginal rate of substitution over time. In dividing his income between savings and consumption, the consumer is guided by the rule of the "balance equation over time." The concluding chapters in this section on income and substitution effects, following Hicks and Frisch, are noticeable for the author's attempt to incorporate the law of Engel and the Giffen paradox into the theory of income effects.

Perfect competition, single monopoly, single monopsony, and bilateral monopoly comprise the first part of the theory of prices. The cobweb theorem is presented as an extension of the competitive price, resulting from delayed reaction and long-run adjustment of producers to changes in prices. In presenting single monopoly and monopsony, the author follows mainly Amoroso. "Cournot's point" indicates equality of marginal revenue and marginal cost for the monopolist. The "purchasing curve" of the monopsonist is derived from the marginal outlay curve of sellers. (Stackelberg argues against using the term monoposony because its Greek meaning is "demand for meat"). The "curve of exploitation" is limited to the case of a price which covers little more than the variable cost of the seller. The theory of bilateral monopoly is merely a repetition of the two previous cases, in which first the monopolist and then the monopsonist is said to dominate the situation. The respective gains are called producer's or consumer's rent.

Duopoly is regarded as the simplest form of oligopoly. Four kinds of

duopoly are distinguished. When both producers are dependent upon each other, we have "Cournot's duopoly." When both producers act independently of each other, the result is "Bowley's duopoly." The two other possible reactions are called "asymmetrical duopolies." All four forms find a detailed and admirable geometric presentation. There is, however, no explicit discussion of pure oligopoly; the whole discussion of monopolistic competition—including even price discrimination and polypolistic competition—does not exceed six pages in all. Two reasons seem to explain this scanty treatment of monopolistic competition. All imperfect market forms, excluding pure monopoly and monopsony, are said to lead to an indeterminate pricing situation. This problem the author had already analyzed in his chapter on duopoly; monopolistic competition did not seem to have theoretical significance in itself. There is also a practical reason for this attitude. Product differentiation and price discrimination are either less common in Europe or are closely associated with cartels. These were regarded as a subtype of monopoly and presented in the chapter on that subject.

The economic influence of the state induced Stackelberg to two modifications of static theory. First, economic policy was considered a privilege of the government instead of being the sum total of all economic actions, whether by private or public agencies. Second, governmental price regulation is considered a part of pure theory. Consequently, he devotes a chapter to this problem. Although different in their aims, governmentally regulated prices fall under the theory of monopoly because they are set like monopoly prices. Governmental prices can be of four different types. They can either be maximum or minimum prices as well as unchanging (*Festpreis*) or target prices. Any one of these prices can be equal to the competitive price. If the former is below or above the latter, the government will have to regulate demand and/or supply—like a monopolist. The government, too, has to obtain an equilibrium in the market, either by changing the market factors or the structure of the market itself. Government prices must thus not necessarily fail but can be just as permanent and successful as cartel prices.

The theory of marginal productivity furnishes the guiding principle for the explanation of functional distribution. Most theorems developed in the theory of production are carefully applied in the chapters on rent and wages. Yet there is no theory of an independent supply of land and labor. Labor unions are not mentioned; pure competition is assumed in all distribution chapters. The extensive chapter on interest presents a modernized version of Böhm-Bawerk's propositions. Money value is kept constant consistently; the liquidity preference of holders is not mentioned. Profit is interpreted as a differential rent which is not an element of cost. Ricardo's differential rent theory is thus applied to the special gains of entrepreneurs.

The concluding part evaluates briefly the relevance of pure theory. Presented are three propositions. Perfect competition is superior to all other economic systems; the government may organize a quasi-competitive system which may be equally effective; the Soviet economy is the system of a "total profit-seeking monopoly." These attempts to interpret existing economies in terms of pure theory reveal the usual and inevitable helplessness of the micro-

economist. All kinds of comparison have been made in the past. Perfect competition has been identified with liberalism and with socialism, and it was present as an economic ideal to fascist dictators.¹ Moreover, micro-economists have called for an additional theory—such as dynamics, welfare economics, uncertainty, money and business cycles (Stackelberg's position), or macroeconomics. They all were at some time presented as the necessary link between pure theory and economic policy. Recent attempts to coordinate microeconomics and macroeconomics are hardly promising. They have revealed the fact that a comprehensive theory of macroeconomics calls for a new theory of the firm, the household, and especially of distribution. It thus seems fair to say that Stackelberg's lifework culminated in the most comprehensive German presentation of microeconomic theory. It appeared at a time when many American economists have ceased to believe in the practical relevance of microeconomics.

ARTHUR SCHWEITZER

Indiana University

¹ For the theory on the governmentally directed competitive economy (*gebundener Wettbewerb*) see Günter Schmolders (ed), *Der Wettbewerb als Mittel volkswirtschaftlicher Leistungssteigerung und Leistungsauslese* (Berlin, 1942).

Grundzüge der Theoretischen Nationalökonomie. By ALFRED AMONN.
(Bern: A. Francke. 1948. Pp. 200. 11.00 sw. fr.)

This concise outline of economic theory by the senior professor of Berne University, Switzerland, presents the main principles of modern value and price theory. In his previous books, the author distinguished between pure economic theory and "the more practically oriented" theory of welfare economics. The former deals with the principles of the individualistically organized exchange economy; the latter considers the aims and means of economic welfare and is thus the necessary link between pure theory and economic policy.

The slender volume is limited to pure theory, in which case the author is more indebted to Pareto (price interdependence) than to Hicks and other contemporary writers. The book considers five problems. It begins with the general theory of prices; deals in detail with prices under conditions of joint as well as composite demand and supply; presents the theory of distribution; discusses the relationship between money and prices (quantity theory); gives finally the theory of international values and rates of exchange. The intention is to write an introduction into theory for beginners. Yet the exceptionally long sentences, and often involved sentence structure, will complicate the reading of this book by candidates for degrees in this country.

The author rejects the marginal productivity theory and claims to have come across a new theory of distribution. He emphasizes the interaction of productive factors in the process of production. This induces him to speak of capital products or labor products, according to which factor was primarily responsible for the creation of a series of goods. In an equilibrium situation there must not only be full correspondence between the prices of the productive factors and their respective products but also, it seems, between the

various quantities of productive factors and their respective products. The "new theory" is called the necessary price differentiation between productive factors and products (*Produktpreisdifferenziertheit*).

According to the author, this new theory differs in two respects from the traditional theory of marginal productivity. Although the supply price of productive factors is normally determined by their respective marginal costs, it would be incorrect to say that the value of the various factors was "determined" by their respective marginal productivities. The value of the marginal product is just one of the variables that influences output and substitution decisions. Equally important is the extent of production as well as the price ratios between factors and final products. The marginal productivity theory is thus said to engage in circular reasoning and can thus not explain satisfactorily the functional distribution of income. Moreover, the demand price for a productive factor is based upon a joint demand for various factors used simultaneously. This problem of substitutability of factors, the author implies, cannot be handled adequately by the traditional theory.

Careful reading of the chapters on rent, interest, and wages reveals essentially the "real approach" of the traditional marginal productivity theory. Emphasis upon the necessary correspondence between factor and product prices, upon the variable proportions of factors, or upon total demand and supply, does not induce the author to employ either the "isoquant" or the "aggregate" or any other mode of analysis. Instead, the prices of the various factors are discussed without stating strictly the usual limiting assumptions. This enables the author to consider such problems as negative rent, irregular shape of the supply curve of labor, or the missing inverse relationship between supply of capital and interest. The impact of these and other problems upon the tendency towards a general equilibrium is not studied. Deviations from the equilibrium position merely lead to frictional profits which are transitional in nature. In consequence, the new theory brings essentially the traditional theory of marginal productivity stated in a somewhat less familiar form.

An appendix of eighteen pages evaluating critically the last book of Stackelberg merits the attention of theoretical economists.

ARTHUR SCHWEITZER

Indiana University

Economic History; National Economies

Austria from Habsburg to Hitler. By CHARLES A. GULICK. (Berkeley and Los Angeles: University of California Press. 1948. Two vols. Pp. xxiii, 1906. \$20.00.)

Professor Gulick's study is essentially an account of the policies and achievements of Austrian Social Democracy between the two world wars, and a detailed history of the events that led to the movement's violent suppression. This story has been told elsewhere, but what distinguishes *Austria from Habsburg to Hitler* is its encyclopedic character. Professor Gulick, who

spent thirteen years at his task, has combed the relevant literature with microscopic care, and adduced an incredible amount of data in support of his conclusions, which are stated vigorously throughout. The author makes no concessions to those whom he considers responsible for the suspension and termination of democratic government in Austria, and some notion of the book's flavor may be gleaned from his prefatory remark that "I have no patience with the intellectual contortionist who apparently thinks he is 'un-scientific' unless he tries to get a part of each foot on each side of every question that is faintly controversial." Professor Gulick has followed his own precepts by planting both feet firmly on the side of social democracy.

The theme of the story is the struggle waged within the rump republic of Austria, a state of doubtful economic viability and with the added handicap of a political and cultural schism between the industrial workers and the peasants, between a socialist party that professed Marxism but practiced democracy, and a clerical party that professed democracy but betrayed it in the end. The author tends to personify the conflict, and presents it in terms of the policies advocated by the leading protagonists: Otto Bauer, the brilliant scholar who attained undisputed leadership of the Social Democratic Party, and Monsignor Ignaz Seipel, the Christian Social chancellor of Austria whom Professor Gulick regards as the evil genius of the republic, a master political strategist but a "profoundly undemocratic man." The climax came in 1927, when spontaneous riots and their suppression by the government revealed weaknesses in the socialist position that had not been appreciated either by the socialists themselves or by their opponents. Thereafter, the incursions of fascism became bolder, while the socialists were increasingly on the defensive, the process ending in the tragic events of February, 1934 and the forcible dissolution of the Social Democratic Party.

The author maintains that fascism was brought to Austria not by the Germans but "by a combination of indigenous Fascists with Roman Catholic political leaders who either betrayed their one-time political principles, or who never had any to betray." These are strong charges indeed, and adherents of the old Christian Social Party are likely to take exception to them. It may be that Professor Gulick has occasionally gone too far in his criticism, and that he does not stress sufficiently the fact that the Christian Social Party included within its ranks, and among its leadership, many good democrats. Nevertheless, the evidence he adduces against the principal leaders of the Catholic party, Seipel, Dollfuss and Schuschnigg, drawn mainly from their own public utterances and writings, is very damaging, and it is difficult to escape the conclusion that all three were totalitarian in thought and in deed.

While *Austria from Habsburg to Hitler* is forbidding in bulk at first sight, the second volume, devoted almost entirely to a detailed account of the development and triumph of Austrian fascism, is of interest primarily to the specialist in central European history, and may be skipped over rapidly by the economist. An exception is Chapter XXVII, in which Professor Gulick contrasts the doctrines and the practices of Austro-Marxism, and comes to the conclusion that while the Austrian socialists thought of themselves, and

were generally regarded, as being to the left of the mainstream of European social democracy, they acted as reformists. A gradual, almost imperceptible trend to the right resulted from the day-to-day realities involved in administering the municipality of Vienna and participating in parliamentary life.¹

Professor Gulick might have made clearer a matter of which he indicated his awareness,² the fact that while the Marxist ideology provided the labor movement with a unifying force, it was by no means an unmitigated blessing. The legacy of decades of Marxian indoctrination still remains to plague continental socialism in its struggle for survival against communism.

It is the material in Volume I, however, upon which the interest of the economist will center. After what amounts to a good-sized tome on the origins of Austrian socialism, and on the turbulent events accompanying the formation of the Austrian republic, during which the socialists fought a tactically brilliant campaign to limit excessive political radicalism among the workers, Professor Gulick turns to the impressive practical achievements of the socialists in their stronghold of Vienna.

Several of the ensuing chapters are actually monographs that can be read with profit divorced from the remainder of the book. Chapter X comprises an 80-page history of Austrian social legislation, providing a useful summary of this experience. Chapter XII deals with the cooperative movement, which was important to the socialists politically as well as economically. Socialist reform of the Viennese tax system, resulting in a substantial shift of the burden of taxation from the workers to propertied groups, is discussed in Chapter XIII, where Professor Gulick considers and refutes the charges that the new system stifled private building construction, created unemployment in the luxury trades, and prevented private capital formation.

Policies in the field of taxation rendered feasible the famous public housing projects of Vienna, an elaborate system of social welfare, and ambitious educational and cultural programs. The chapters covering some of these subjects suffer from prolixity; for example, much of the material on the socialist youth organizations, on education, and on cultural work could have been compressed greatly without impairing the value of the book. One feels that Professor Gulick's admiration for the impressive apparatus of the socialist party occasionally led him to overstate the novelty and significance of its achievements.

Despite the fact that the essential core of his study is the labor movement, Professor Gulick devotes only a single chapter to the history and practices of the trade unions. The reader will search in vain for adequate discussions of collective bargaining procedures, collective agreements, working rules, and other union policies which are everywhere the vital concern of the trade unionist.

¹ It may be of interest to note that I have reached the same conclusion regarding the Norwegian Labor Party, which was usually paired with Austrian social democracy in the European political spectrum.

² *E.g.*, p. 439: "The orthodox Marxian or Englesian attitude formed a handicap which had to be overcome before the party could put its full weight into the constructive housing schemes of the city council of Vienna."

The neglect of this phase of Austrian labor history may possibly be ascribed to the author's oft-repeated view that Austrian trade unionism "was predominantly political throughout its history." He devotes a portion of his trade union chapter to a critique of Perlman's view that "manual groups . . . have had their economic attitudes basically determined by a consciousness of scarcity of opportunity," whereas middle-class intellectuals are absorbed in philosophical abstractions, leading to "a mutual divergence in labor ideology between the 'mentality' of the trade unions and the 'mentality' of the intellectuals." On the contrary, asserts Gulick, there was no real difference in outlook between the two branches of the Austrian labor movement. The trade unions, far from evincing any desire to limit themselves to the narrow economic horizons envisioned by Perlman, "came to regard parliamentary activities as the fulcrum of labor policy," and "were increasingly regarded as the economic arm of an essentially political movement."

There was much in the peculiar circumstances of Austria that justifies Professor Gulick's approach. For example, while in 1920 the Social Democratic Party had 335,000 members against 900,000 for the "free" non-Catholic trade unions, by 1930 party membership had reached 698,000, while trade union membership fell to 655,000. Thus party membership actually came to exceed trade union membership, a situation that is probably unique in the annals of western socialism. It may be that the precarious economy of Austria precluded substantial economic gains through the traditional methods of trade unionism, and that the Viennese workers came to regard "the municipal apartments, the health and recreational services, and the reformed schools of the Socialist administration" as the chief source of increased real income.

Nevertheless, there were trade unions, and they were not entirely absorbed with politics. Some of the things that Professor Gulick himself comments upon indicate that the Perlman thesis, perhaps overstated as a general theory, does contain an important element of truth in its emphasis upon job consciousness. For example, the repeated and largely unsuccessful attempts to reorganize the Austrian federation of labor along industrial lines (pp. 272-90), attest to the continued strength of craft separatism, in the face of the class consciousness preached by the socialists. The author seems to think that the apparent trade union interest in the problem of structure was not fundamental, for he remarks that "when the primate of the party was established, the trade-union wing, as modern psychology would style it, almost 'fled' into reorganization." Moreover, he appears to attribute the conflicts over industrial unionism, as well as the persistence of jurisdictional disputes, to "oligarchic tendencies [which] unavoidably arise even within the framework of the most democratic institutions." Yet at another point he records these interesting facts about the 1919 congress of the Federation: "Between the last (1913) and the present (1919) congress lay the fateful period of war and revolution; nevertheless, the report of the *Kommission* on these meaningful years was almost neglected. But when the congress turned to the question of reorganization no less than 44 individuals asked for permission to speak, and before the debate was closed 26 had expressed their views on industrial unionism."

Another illustration of differences in outlook between the party and the trade unions is afforded by the crucial issue of coalition. After leaving the government in 1920, the socialists were continually weighing the desirability of returning. By re-entering into a coalition with the Christian Social Party, they might have obtained several cabinet posts, and perhaps have averted the transformation of the army and the police, which had been radicalized after the first world war, into instruments that could be used against them. On the other hand, they would have had to share responsibility for some unpalatable economic and political decisions that were inevitable under the circumstances.

The socialists were, as Professor Gulick shows, on the horns of an almost insoluble dilemma. To remain in the government after 1920 might have strengthened the communists and impaired the unity of the labor movement. On the other hand, there were not a few within the party who agreed with Karl Renner that "the July [1927] occurrences were a consequence of the steady refusal to join a coalition government in past years. Only thus had it been possible for the opponents to transform police and army into willing tools of their policy and to arm the Heimwehr."

The trade union leadership appears to have shared Renner's views. Gulick quotes a revealing statement by a prominent trade unionist which perhaps epitomizes the divergent views of the political and economic branches of the labor movement: "We trade union men feel it on our hides that it is not a matter of indifference for the proletariat whether it is our highly respected comrade Hanusch who sits in the ministry of social administration, or a Pauer or even a Schmitz." (The latter two were non-socialist politicians, while Hanusch was a leading trade unionist.)

No one is likely to agree in every essential with the analysis and interpretations in *Austria from Habsburg to Hitler*. Nevertheless, reading this case study of democratic socialism in action affords an exciting intellectual adventure. It is far more than the history of the labor movement in a small country, for many of the problems treated are relevant today in all of western Europe: the constant threat of communism on the left, the dangers and advantages of coalition with center groups, the relationships between party and trade unions, the quest for an ideology suited to present realities. I hope that Professor Gulick's important work will receive the wide attention that it merits.

WALTER GALENSON

Harvard University

The Brazilian Economy. By HENRY WILLIAM SPIEGEL. (Philadelphia: Blakiston Co. 1949. Pp. xv, 238. \$4.50.)

This is a very valuable contribution to the growing literature on the economic problems of the other American republics. It is only in the last few years that any number of American scholars have turned their attention to the nations to the South and problems which they have to face. The works of Wyeth and Hughlett on the industrialization of Latin American were among the first studies of this kind, while the work of Ellsworth on Chile was one of the first attempts to tackle the problems facing one particular

country. The present work by Dr. Spiegel, who is an associate professor of economics at the Catholic University of America, is a welcome addition to this field.

Some of the difficulties of those who attempt to deal with the economic problems of the Latin American region are evidenced in Dr. Spiegel's work. With regard to most subjects with which the author deals, the statistical material is very sketchy. Dr. Spiegel does a valuable job in trying to assess the value of the available data, and to use them to get a general picture of the economy of the nation. However, as he indicates, about the only area in which statistical material is at all adequate is that of foreign trade. Because of the importance of taxes on imports and exports as a source of revenue for the government of Brazil, it has for many years kept quite accurate figures in this field.

In such fields as population, labor, agricultural production, national income, and cost of living, the material available for the economics student varies from not so good to nothing at all. And what is true of Brazil is true to a greater or lesser degree of most of the other Latin American nations. Perhaps Argentina, Chile and one or two other countries would rate a bit better in the quality of economic data available, but for the most part the Latin Americans have not been particularly interested in the collection and correlation of economic statistics.

Dr. Spiegel's book is notable for reasons other than the fact that it is a pioneer in the field. It is notable because it attempts to apply the national income approach to a comparatively "backward" nation. Indeed, he starts out his study with a chapter on the national income, indicating the distribution of income payments to various elements in the community, and discussing the problems of savings and investment in a country in which the great majority of the people have very small incomes.

The author then goes on to deal with what is perhaps the outstanding characteristic of the Brazilian economy, the fact that for more than one hundred years the country has been experiencing a virtually uninterrupted inflation. Dr. Spiegel concludes that this inflationary spiral was brought about in large part by the very large volume of exports, which resulted in the release in Brazil of a large quantity of money for which there was comparatively little offset in domestic production. At the same time, he notes that until the first World War, at least, these very large exports merely served to pay for the equally large imports of capital.

This long-range Brazilian inflation has generally been accompanied, according to Dr. Spiegel, by budget deficits and currency depreciation in addition to the export surpluses and inflow of capital which we have already noted. Since 1942, however, the trend towards currency depreciation has been halted, though prices have gone up even more rapidly than before. This is in large part due to the fact that exports are influenced more by the lack of domestic mass purchasing power than by the requirements of the balance of payments.

Dr. Spiegel feels that the fundamental necessity in Brazil is to increase the productivity of its agriculture and industry. This has been held back heretofore by the cheapness of labor. The author maintains that Brazilian

labor is still cheaper than that of the United States and other industrial nations, even when the very much lower productivity of the Brazilian worker is considered. He notes, however, that the power of the workers' organizations is growing and that labor costs are therefore rising, and he believes that sooner or later that tendency will make it necessary for Brazilian employers to introduce more machines and more efficient machines than have hitherto characterized Brazilian industry. He notes that in the textile industry this tendency is apparently already under way.

Industrialization is the principal method upon which Brazil must rely in the years just ahead, according to Dr. Spiegel. He discusses at some length the problems involved in industrialization, such as a small market, difficult transportation, scanty capital resources. In this connection, one misses a more adequate discussion of some of the labor problems facing the new manufacturing industries. He feels that much of the capital for the development of industry in Brazil must come from abroad. He notes that there was a strong emphasis on economic nationalism between the two wars, but that since World War Two restrictions on foreign capital have tended to be relaxed. He believes, however, that, though the Brazilians will tend to welcome foreign capital, particularly in manufacturing enterprises, it will have to come to Brazil on more equitable terms than were customary in the earlier era.

Dr. Spiegel also believes, on the basis of the evidence which he presents, that the Brazilian government will itself play a large part in this industrialization process. Not only will it extend the customary kinds of aid to infant industries—tariffs, tax reductions, subsidies—but the government itself will establish or help to establish many of these industries. He notes five such heavy industrial enterprises in which the government has been the prime mover during the last decade, and feels that this trend will continue. This, as Dr. Spiegel points out, is quite consistent with the tradition of economic behavior in Brazil, where the ideas of *laissez faire* never had more than fleeting popularity.

In addition to these problems directly concerned with the growth of manufacturing, Dr. Spiegel devotes his attention to the agriculture and transportation of the country, noting the difficulties of the latter, and noting the changing nature of the former—the decline of the old staple crops of coffee, cotton and sugar, and the growing tendency towards diversification of agricultural production. He feels that the trend during the next generation will be towards more emphasis on food crops for consumption within Brazil, and less emphasis on the great export crops.

This volume is a trail blazer in its field. It is a very readable and very useful work not only for those particularly interested in Latin American affairs, but for anyone who is interested in the basic problem of the development of "backward" countries. And, if President Truman's inaugural address is any indication, this is a problem in which Americans will become increasingly interested.

ROBERT J. ALEXANDER

Rutgers University

Studies in the Development of Capitalism. By MAURICE DOBB. Rev. ed. (New York: International Publishers. 1948. Pp. ix, 396. \$3.50.)

Maurice Dobb, lecturer in economics at the University of Cambridge, is best known for his studies of Soviet economy and his criticism in avowedly Marxian terms of current economic theory. In turning to economic history, he steps out of his customary role and addresses a subject in which he is not a specialist and for which he relies upon the findings of the more prominent workers in the vineyard. In his endeavor he retains his refreshingly frank Marxian position and views history from that particular vantage point.

Being, apparently, a fearless intellectual, Professor Dobb attacks at once one of the most bothersome points of his subject—the term capitalism. He will have none of Sombart's vagueness, which regards the institution as a *Zeitgeist*, or of the German historical school's attempt to identify capitalism with money economy. He lines up with Marx in the belief that what distinguishes capitalism most particularly and sets the period of capitalism off most distinctly from other periods of history is that under it workers were deprived of the means of production, that these means were owned by investors, and that workers were thereby exploited by their employers. Basic to this entire presentation is the labor theory of value.

This fundamental proposition conditions the things Dobb looks for in the development of capitalism. How, when, and why did workers lose the means of production; how, when, and why was ownership acquired by an employing class; how has the employing class used its economic and political power to maximize benefits to itself; and what have been the recent trends within the institution which may be projected into the future?

These concerns have led Dobb to throw overboard such categories as "merchant capitalism" and the Sombartian stages in capitalism. He adopts stages which are determined by the growth of the dispossessed, industrial proletariat. In his view the crucial turning points in England were the end of the "sixteenth century and the beginning of the seventeenth when capital began to penetrate production on a considerable scale" (p. 18) and in the late eighteenth and early nineteenth centuries with the industrial revolution. The Bourgeois got control of the means of production not primarily by accumulating capital out of income, but by taking advantage of shifting price differentials between types of property.

The ownership-of-the-means-of-production class has used its economic position to get political power and has sought legislation to give it monopolistic positions and control over labor. Mercantilism, for example, is regarded as a system of "state-regulated exploitation through trade. . . ." "State intervention tended to grow in countries of Western Europe in the fourteenth and early fifteenth century, which was a period of almost labor scarcity, and again in the seventeenth century, which was in France, for example, the age of Sully, Laffemas, and Colbert; whereas the nineteenth century, a period of abundant labor reserve and rapid increase in population, witnessed the greatest triumphs of *laissez faire*." By the twentieth century, capitalism had reached a point where there was a "chronic fear of increase of products and productive capacity," "an arresting of technical development," and a threat of a collapse of the entire capitalist system.

Dobb has a neatly organized account, but he has imposed great limitations on it through his emphasis upon the labor theory of value. Surplus value undoubtedly arises from various factors of production and not from labor alone, at least, the historical record indicates that this is so. Hence capitalism as an institution has many facets which Dobb has largely ignored. Furthermore, he gives away a part of his case regarding labor theory of value as the distinct aspect of capitalism by stating that under feudalism, that is, before capitalism, the wealth of the lords resulted from surplus labor of serfs. Finally, what freshness and light there may be in the book are obscured by a wordy and turgid text.

SHEPARD B. CLOUGH

Columbia University

Russia in Flux. By SIR JOHN MAYNARD. Edited and abridged by S. Haden Guest. (New York: Macmillan, 1948. Pp. xviii, 564. \$6.50.)

The late Sir John Maynard wrote about Russia with an unusual perspective gained from a long career in another backward country, India, and with an authority derived from several visits (including one as early as 1895-96), as well as from independent study. This volume combines in abridged form two collections of essays previously published in England: *Russia in Flux before October* (London, 1941), and *The Russian Peasant: and Other Studies* (London, 1942). Running over virtually the whole range of Russian and Soviet life and history, the essays inevitably are rather uneven in quality. Unquestionably, however, some are first-rate contributions and the viewpoints expressed are interesting throughout. No student of Russia will wish to pass this work by.

Among the different essays, numbering twenty-seven in all, four discuss the currents of political, social and religious thought in Russia in the three-quarters of a century before the Revolution. These are probably among the most valuable in the volume. Maynard apparently did a prodigious amount of reading in Russian sources, and he manages to present in a brief space what seems to be a most comprehensive catalogue of the main intellectual figures and their thought, including, to mention only a few, the slavophile Khomiakov, the westernizer Chernyshevsky, Bakunin, the populist Mikhkailovsky, Tolstoy, Plekhanov, Struve and, of course, Lenin. The discussion is monographic in character and does not seem to focus on any particular thesis.

All of six essays deal with agriculture, including particularly Tsarist peasant living conditions, the organization of the Mir (which it is not generally realized was still, on the eve of collectivization; the dominant factor in Russian agricultural organization); the twists and turns in Soviet agricultural policy since the Revolution; the collectivization drive and the organization of the collective farm. These materials will be of interest both for the information assembled, though little seems distinctly new, and the interpretative comments, which are always challenging. While Maynard may tend to understate the initial peasant opposition to collectivization (p. 267), and at the same time overstate the mass support that has since been won for the new form of agricultural organization (Chap. XX), he is probably right in pointing to the war experience as indicating rank-and-file peasant loyalty

to the regime. In the light of the unrest during the collectivization drive many foreign observers were led to believe that the Soviet government might not be able to count on the peasantry in a national emergency. On the basis of his own travels in the Ukraine and North Caucasus in 1932-33, Maynard questions that there was anything like the severe famine there, leading to millions of deaths, such as many commentators reported at the time (pp. 249-50).

The materials on the evolution of Soviet agricultural policy should be read in conjunction with an all too brief essay on the controversies within the party in the 'twenties. Agricultural policy was one of the principal issues in these debates, and Maynard presents a very summary survey of the views held by different groups in the party on this and other questions, including industrialization, the status of the trade unions, foreign policy and so on. As Maynard suggests, the ideological differences between Trotsky and Stalin probably were not nearly as clear-cut as is often imagined. Certainly on economic questions, particularly agricultural organization and industrialization, Stalin at the close of the debates was at least as far to the left as Trotsky ever had been.

Unfortunately for the readers of this journal, the brief discussion of Soviet planning is altogether superficial, and will be of little interest to those familiar with any of the standard works on Soviet economics. It should be noted that, contrary to what is said (p. 341), the Soviet government was definitely interested in financing the first and subsequent five-year plans partly from foreign borrowing. Also, in view of the Labor Reserve School Act of October, 1940, to which reference is made, and certain other labor control measures instituted in the same year which are not discussed (see the reviewer's *Structure of Soviet Wages*, Cambridge, 1944, Appendix F), many probably will not share Maynard's opinion that "At all events the USSR is free from unemployment, and the choice of occupations is freer than in a country where young people must take the first job that offers, or else risk finding none" (p. 336). Except for a brief comment, no attempt is made by the author to grapple with the question of penal labor.

The balance of the essays, which space forbids us to comment on in any detail, includes several studies of a general historical character centering mainly on the three revolutions and the civil war; some studies on Soviet political institutions, which seem controversial at numerous points, particularly the purges; several essays on nationalities and religion; a summary appraisal of the living and working conditions of urban labor; a summary appraisal of recent currents in Soviet ideology, including the rôle of patriotism, attitudes toward the family, etc.; and a final and very provocative essay attempting to evaluate the Soviet system in terms of the opportunities provided for personal development.

At various points in his essays Maynard voices several familiar themes: the mass of Russians are little affected by or concerned with the vagaries of the police system, are mainly interested in security and economic and social leveling, and are probably not yet ripe for political freedom. These are, of course, all matters of opinion. Interestingly, the even more backward country

where Maynard spent his career seems now to be building its political system on quite different premises.

Unfortunately, these essays are much too loose-knit and their coverage too uneven to constitute anything like a systematic survey, suitable for textbook use. For specialists, their value is impaired by the lack of documentation. The general reader, however, will find this an unusually thoughtful and provocative book.

ABRAM BERGSON

Columbia University

Money, Banking and Credit in Mediaeval Bruges. By RAYMOND DE ROOVER.
(Cambridge: The Mediaeval Academy of America. 1948. Pp. xvii, 420.
\$8.75.)

Drawing upon a long list of monographs and published documents and interspersing fresh data from Belgian and Italian archives, Professor de Roover has produced a noteworthy synthesis of financial history in an area where capitalistic institutions were relatively mature in the fourteenth century. Some important generalizations hold for the rest of Flanders as well as for Bruges; and, since many of the city's bankers were Italians, the study also bears on Italian history and parallels in part the author's *The Medici Bank*.

Following the Belgian historian Bigwood, de Roover finds that banking embraced three distinct groups: (1) the merchant-bankers, principally Italians, who specialized in foreign exchange; (2) the lombards, whose chief business was pawnbroking; and (3) the money-changers, mainly Flemish, whose operations evolved from "petty exchange" into deposit banking. Before the end of the mediaeval period Antwerp "inherited the position of Bruges as the financial metropolis of northwestern Europe," but by the turn of the seventeenth century Amsterdam outranked Antwerp. Definite links are established between mediaeval practices and banking in Amsterdam: the public bank of Amsterdam, founded in 1609, "performed the same functions as the Bruges money-changers and should be considered as their direct descendant."

The three classes of bankers did not form "hermetically sealed" groups, but it is significant that specialization was favored both by the business community and by legislation. (Thus, the money-changers were not allowed, and apparently did not want, to compete with the lombards.) Though really doubtless formed the main type of wealth, no special market or institution catered to real-estate financing. Indeed, this aspect of credit is dismissed in a sentence: "Real estate owners could obtain credit more cheaply from institutions and private investors, interested in a steady flow of income, than from professional lenders." Public finance is similarly limited to casual statements: "Loans to public authorities . . . occasionally found favor with the lombards"; while the money-changers advanced funds to the city government "only in great emergencies." Lacking portfolios of mortgages and government securities, the money-changers made direct investments in commerce, particularly in the cloth trade; but even this was forbidden in 1477.

Money, Banking and Credit examines elaborately the problems of currency and short-term credit instruments and institutions; it answers few questions concerning long-term debt, either public or private, and the processes of capital accumulation.

In the fourth and fifth chapters de Roover reviews and expands his previous expositions of the mechanism of mediaeval exchange. Despite meticulous efforts to dispel false ideas of the subject, the discussion retains several puzzling statements. All important money markets were interrelated and arbitrage was practiced; monetary debasement as well as interest rates affected exchange rates; yet the "equilibrium of the money market required that the rate of exchange be always higher in that one of the two places which gave its currency to the other. . . . This rule is of general validity, and there are no exceptions" (p. 62). Is this an obscure way of saying that in a given market there was always a spread between the buying rate and the selling rate of a foreign currency? One hesitates to challenge an author who is sure that "on all these points [relative to foreign exchange] the demonstration given in this study is complete and decisive" (p. 353).

There are other points on which scholarly caution yields to undue speculation and assertiveness. A re-examination of the "widely current theory" that debasement "is explained by the dwindling supply of precious metals in Western Europe" leads to the conclusion that "temporary difficulties" (e.g., adverse payments balances, work stoppage at the mints) were more important than any long-run factors tending to depress the price level. Although the evidence concerning the effects of monetary policy on the price level is "admittedly scarce," the author does not hesitate to affirm that Flemish prices "rose sharply during the fourteenth century and more slowly during the latter part of the fifteenth century." Subsequently, it appears that "for the fourteenth century there are no price series or index numbers available, but other documents give a fairly good idea of what was going on." On the other hand, "it would be dangerous to make any generalizations" in the absence of price statistics; but "their importance should not be overrated."

In conclusion, the author admits his inability to answer one important question: Were there business cycles in the Middle Ages? But seasonal fluctuations in the money market were commonly recognized by the bankers of Bruges; and, "if there are seasonal fluctuations, the existence of larger waves, that is, of cyclical fluctuations may be presumed and cannot be rejected *a priori*."

ROBERT S. SMITH

Duke University

Trois Essais sur Histoire et Culture. By CHARLES MORAZÉ. (Paris: Librairie Armand Colin. 1948. Pp. 62. 90 fr.)

These three essays, by M. Morazé, lecturer in economic history at the Institut des Hautes Etudes of the Sorbonne and one of the editors of *Annales*, are of importance for their emphasis on a return of man to a position of central significance in historical and economic study. In a brief foreword, the veteran Lucien Febvre compliments Morazé because, though in no sense

a pupil of his, the younger man has strengthened his hand in his lifetime plea for a geohistory, a history not stultified by the worship of mere *fact*.

Entitled respectively "From Facts to Man," "From Number to Man," and "Order and Method," these essays study the subordination of fact to space and time in human history, the inevitable intervention of man into his own statistical determinism, and the need for a restoration of philosophy in the history of culture.

Taking a single *fact*—the appearance of Jules Ferry at the head of the French government—Morazé demonstrates how far a fact is from being an absolute, and how it is linked with apparently remote elements in geography, time, and cultural history. History thus becomes psychological, "the life of Man."

In his discussion of number, Morazé traces the rise of statistical determinism in the 19th century, and then the inconsistent effort of man to level off the curves of his own dialectic of inevitable numbers. Thus in "Order and Method," Morazé arrives at a challenge to the effort to find a universal history of humankind on a parallel with the natural sciences; and he calls for a reversal of the present hierarchy of specialists toward that "infinitely more difficult and rarer" acquisition of "broad intelligence and encyclopedic reading" which alone can restore perspective in the history of man and man's culture.

WILSON O. CLOUGH

University of Wyoming

Economic Systems; Planning and Reform; Cooperation

The American Economy. By SUMNER H. SLICHTER. (New York: Alfred A. Knopf. 1948. Pp. vii, 214, ix. \$2.75.)

This book is an analysis of the American economy—its problems and prospects—as seen by a celebrated economist. Professor Slichter first sets out to examine the basic characteristics of the economy. He next explores four of the principal problems of the economy, and finally gives an appraisal of its strong points and weaknesses. By way of introduction he states that the American economy is the most productive in the world (with six per cent of the world's population and an even smaller percentage of the world's labor force, the United States produces over one-third of the world's goods). He believes that the great strength of this extraordinary economy is little appreciated by the people of the United States, and even less so by the people of other countries. The economy has great problems, and its institutions are under attack.

Professor Slichter writes:

The economy itself is undergoing a basic transformation. About fifteen years ago power began to shift rapidly from business men and the self-employed to employees, who are by far the most numerous group in the community. This shift of power is still in its early stages, but is going on rapidly. The prospects of the economy are much in dispute. Many people

believe that it has become "mature" and that it is rapidly losing the capacity to grow. Other people think that the shift of power from employer to employees will undermine the spirit of enterprise and hinder the growth of industry—that no laboristic economy can be as progressive as a capitalistic one. Still other persons are impressed with the fact that industrial research is growing by leaps and bounds, and that the industrial revolution appears still to be in the early stages of its development. They count on rapid technological change to keep the economy dynamic.

Once these issues are set forth as the subject matter of the book, Professor Slichter outlines what he believes to be five principal characteristics of the American economy: (1) The economy is predominantly one of private enterprise; (2) it is a laboristic economy; (3) it is highly competitive; (4) it is highly dynamic; (5) the economy is highly self-sufficient.

While each of these propositions is qualified and documented, one cannot let them all pass by without some challenge. Certainly one cannot accuse Professor Slichter of being a conformist; he has persistently stuck by his guns in defending his wartime position that the vast backlog of savings and deferred demands would maintain full employment during the postwar years, while many economists predicted millions of unemployed. Similarly, he is in the minority here regarding his position on competition. Most economists would probably agree that the economy has too little of the competition necessary to provide the most effective balance wheel for allocating resources into the most productive channels. While emphasizing that the American economy is highly competitive, Professor Slichter tends to give inadequate recognition to the significance of the rapid growth of corporate concentration of industry under investigation by the Antitrust Division of the Justice Department and the Federal Trade Commission. Relevant also to the monopoly question are the recent activities and revelations of the Senate Small Business Committee.

It is not difficult to accept, for the most part at least, his thesis about the economy, which he implies can be expected to become more "laboristic" over the long run. But this is also to be interpreted as meaning that strong *farmeristic* elements will be important, and merits consideration in evaluating any thesis that the economy is largely "laboristic" in nature.

Professor Slichter lists four problems which he believes stand out above all others in importance; some of these he believes are more political than economic. They are: (1) The problem of industrial relations; (2) The problem of economic stability; (3) The problem of international economic policies of the United States; (4) The problem of incentive to expand industrial capacity to increase production.

He emphasizes that the interest which the community takes in labor matters will largely determine whether management and trade unions cooperate effectively to increase output and to determine working conditions, and that it will determine in larger degree the nature of the impact of trade unionism upon the scale of values of the country. Thus, it becomes imperative that there be developed a generally accepted body of principles as a guide to settlements which are equitable and in the general welfare. Professor Slichter

believes that these principles must either be accepted by both parties or enforced by a national wage and arbitration policy. Several instruments for dealing with emergencies should be possessed by the government. He is against governmental seizure of plants. He thinks voluntary arbitration would be preferable when bargaining disintegrates. If this fails, he favors required arbitration. If one party or both reject the recommendations of an impartial emergency arbitration board chosen as neutral and competent by representatives of labor, the President (or the governor) might require both parties to try out the board's recommendations for six months or more. This prolonged "cooling off" period introduces an uncertainty which each party would wish to avoid.

While Professor Slichter's discussion of industrial relations is cogent and encompasses much admirable analysis, his section on the business cycle suffers from over-concentration. By way of stressing the role of savings and investment, he gives much attention to the need for tax revisions that would encourage more risk taking. Two steps should be taken to correct the present income-tax inequities. One is to permit income-tax receivers to pay a tax on their average income over a limited period of years; and, second, "... permit a substantial part of capital losses to be offset against general income in the year that capital losses are realized."

In his excellent chapter on international economic policy, he explains the job of ECA, the chronic shortage of dollar exchange, and the great need of the United States to import more goods.

After examining the pertinent facts Professor Slichter tries to dispel the belief that this is a "mature economy," and concludes that there are powerful forces still making it possible to have great technical progress. He lays the responsibility for this progress squarely upon the so-called "new laboristic society" that he believes is emerging. Its great challenge is to open "... the markets of the United States to the rest of the world and in developing far closer economic ties between this country and other countries." If this is done "... the standard of living should continue to double every forty years or less."

While presenting a vigorous and provocative approach to the subject, this book is at the same time a thoroughly scholarly piece of work. It deserves to be widely read and digested, particularly by all those persons interested in maintaining our American institutions.

CHARLES D. HYSON

Harvard University

Individualism and Economic Order. By FRIEDRICH A. HAYEK. (Chicago: Univ. of Chicago Press. 1948. Pp. vii, 272. \$5.00.)

The degree of civilization that mankind has yet attained, and any conceivable progress therein, has been, and will be, attained by planning. Progress in civilization has also been marked by, and is practically synonymous with, the release and development of the constructive powers of individuals and the suppression of their predatory tendencies. The task of social planning is to enable men to take joint constructive action that they cannot take as

individuals or private groups, to contract for their mutual benefit on the basis of mutual renunciation of antisocial practices, to suppress the socially vicious activities of those who will not make any such renunciation, and, for the rest, to give rein to the full and free expression of individual personality and talent in sole or collective endeavor.

Nothing, therefore, could be sillier than an attempt at serious contrast between planning and no-planning, in either the individual or social sphere, unless one is prepared to argue for improvidence, chaos, and the war of each against all, as the *summum bonum* of the human race. This is not the real choice that confronts us but rather where, what, and how much centralized planning there shall be, and how much individual responsibility. Our preference must be between the jungle and the jail, and most of us, I conceive, would like things to be about as far away from either of these extremes as from the other (unless, of course, we picture ourselves as the wardens of an incarcerated community industriously engaged in ministering to our whims). In the jungle there is, of course, no central planning while, for the inmates of a well-run jail, all individual planning, especially for escape, is either futile or damnifying to the central plan.

In *Individualism and Economic Order* Professor Hayek attacks, rather than as in his *Road to Serfdom* he seemed to me to skirt, the *essential* question. The book is a collection of previously published essays which, in some degree, attains the happy result of Simons' *Economic Policy for a Free Society* of being greatly more impressive as a whole than as a mere sum of the parts. The last two essays, however, on "The Ricardo Effect" and "The Economic Conditions of Interstate Federalism," appear to be a vermiform appendix with no function, *in this book*, other than to bring it to a size to which the publishers might attach a price tag of five dollars and still avoid the blush that must otherwise effuse even the hardened faces of their kind.

The first six essays "Individualism: True and False"; "Economics and Knowledge"; "The Facts of the Social Sciences"; "The Use of Knowledge in Society"; "The Meaning of Competition"; and "'Free' Enterprise and Competitive Order" are brilliant expositions of the general themes that, under an automatic system (that is, one that relies on the drives of individuals seeking their own ends); we build far better than we know, and that any sort of detailed central planning must, along with its lack of mobility and adjustment to kinetic conditions, inevitably lose the benefits of the immense store of dispersed special experience and information of which the social "know-how" is composed.

The three essays on Socialist Calculation (Nos. VII, VIII, and IX) conclusively argue that, in a collectivist regime, there is no possibility of optimum allocation of resources on the basis of consumers' preference, and, to this reviewer at any rate, carry the conviction that there is a negligible probability that this can be done anyway near as well as in even a far from perfect system of free enterprise. It is not so clear, however, that specific (narrow) ends may not be reasonably well attained in a collectivist system, provided free choice to the individual is a matter of little, if any, concern to the directorate. Though this was not the point at issue, one may expect from

Hayek's opponents the charge that he is comparing not ideals with ideals, or facts with facts, but the ideal theoretically obtainable through free individual enterprise with an ideal which some collectivists do not hold or with the disconcerting facts quite obvious, contumaciously denied, or shamefacedly concealed, in existing collectivistic societies.

The essential defects in such approximations to free enterprise as the world has yet seen lie in the lack of provision of a rational monetary system for a pecuniarily motivated "order" and in the consequent waves of involuntary unemployment with which all of them have heretofore been afflicted. The inclusion, as No. IX, of the essay on "A Commodity Reserve Currency" is Hayek's recognition of these defects and his prescription for their alleviation. Hayek's strong endorsement of this monetary reform should suffice to remove all suspicion of him as a reactionary (which he has, of course, never deserved) and to separate him from those who seem to believe that nothing new can be good as sharply as from those who are unaware that, if history throws a most uncertain light on what is good, it can at least suggest that what men in the past have always rejected (when, after long experience, they have had the chance) is a highly unpromising path for the present and the future.

FRANK D. GRAHAM

Princeton University

Business Fluctuations; Prices

Measuring Business Cycles. By ARTHUR F. BURNS and WESLEY C. MITCHELL.
(New York: Nat. Bureau of Econ. Research. 1946. Pp. xxvii, 560. Tables, 201. Charts, 77. \$5.00.)

This is the second volume in the series entitled "Studies in Business Cycles."¹ Impressive in scope and executed with painstaking care, the work presents a detailed, technical analysis of a method for studying the cyclical behavior of individual series. To those who place their credence in aggregative data or in composite indices of economic activity, the approach undertaken by Burns and Mitchell may appear complicated and time-consuming. But since our usual aggregative data have not, to date, adequately served either to support or to refute numerous hypotheses of economic theory, an atomistic analysis of business activities is likewise essential. As a preliminary to forthcoming monographs and to a third summary volume, the present work discusses numerous statistical tools and subjects several important causation hypotheses to valuable tests of significance.

From a detailed analysis of 1277 individual series in the United States, Great Britain, Germany, and France² and a partial analysis of many more,

¹ The first was *Business Cycles: The Problem and Its Setting*, by Wesley C. Mitchell, which the National Bureau of Economic Research published in 1927. Mitchell's earlier work, the pioneer and monumental quarto volume, *Business Cycles*, was published by the University of California, in 1913.

² Of this total, 76 per cent relate to the United States, 11 per cent to Great Britain, 7 per cent to Germany, and 6 per cent to France; the series cover production, transportation, employment, prices, inventories, sales, and monetary circulation.

the authors arrive at the following definition: "... a business cycle consists of expansions occurring at about the same time in many economic activities, followed by similarly general recessions, contractions, and revivals which merge into the expansion phase of the next cycle; this sequence of changes is recurrent but not periodic; in duration business cycles vary from more than one year to ten or twelve years; they are not divisible into shorter cycles of similar character with amplitudes approximating their own" (p. 3).

To determine the chronology of turning points in general business activity, the authors date the alternate peaks and troughs of seasonally adjusted, specific cycles occurring in each of the individual series included in the study, following the pattern of the definition just given. The series are chiefly monthly, to insure greater exactness in selecting the true turning points within years. From the consensus of turning points in these "specific cycles," the monthly dates of the "business cycle" are designated, not without qualms, but with a belief that this chronology, though approximate, is more trustworthy than any other devised to date. The turning points so selected generally harmonize with the annals of business and with the best known composite indices of business conditions in the United States.

Following the determination of business cycle durations, useful as a norm for comparison, Burns and Mitchell then introduce the statistical methods to be used by the National Bureau in the future analyses of individual series. The first set of methods involves five S (specific cycle) tables, usually based on a positive, trough to trough,³ analysis of each complete cycle within a single series.

These enumerate:

S(1) the duration in months of specific cycles during expansion, contraction, and the full cycle: and the timing difference, in months, between specific cycle turning points and corresponding business cycle turning points, *i.e.*, the enumeration of leads or lags.

S(2) the specific cycles expressed as relatives: the absolute value for each full positive cycle is divided by the average of the absolute values for the corresponding full cycle; thus the inter-cycle secular trend is removed but not the intra-cycle trend. The index for each turning point represents a three month average⁴ centered on the month containing the turning point, thereby partially eliminating the random fluctuations. Amplitudes are then derived for the expansion phase (positive difference), for the contraction phase (negative difference), and for the full trough to trough cycle (difference ignoring signs). Also computed for the two major phases (and for the full cycle) is the average change in the index relatives per month, obtained by dividing the amplitudes by the duration of the phase in months.

S(3) the secular movements as given by the average monthly standings in absolute units during expansion, contraction, and the full cycle, together with percentage changes from phase to phase.

³ Series definitely established as inverted are treated on a peak to peak basis. Also many non-inverted series are treated on the peak to peak basis to offer more complete comparison.

⁴ Sometimes less, depending on the duration of the complete cycle.

S(4) the specific cycle pattern, which is indicative of amplitude and which is an expansion of table S(2), showing the cyclical relatives of the full cycle in 9 distinct stages. Stages I, V and IX represent the beginning trough, the intermediate peak, and the terminal trough, respectively; stages II, III, and IV represent the index relatives for each third of the intervening expansion phase; and stages VI, VII, VIII represent the index relatives for each third of the intervening contraction phase.

S(5) the specific cycle pattern expressed as the average change per month between the 9 stages indicated in table S-4.

The second set of methods leads to the construction of three R (reference cycle) tables, representing the same individual series, but the relatives are now classified in accordance with the previously established turning points of the general business cycle.

These enumerate:

R(1) the reference cycle pattern indicative of amplitudes in the 9 stage set-up of table S-4. This permits direct comparison of the specific cycle pattern of table S-4 with the reference cycle pattern of table R-1.

R(2) the reference cycle pattern expressed as the average change per month between the 9 stages indicated in table R-1. It is interesting to note that the average monthly change during reference contractions may frequently be positive because of a continuing positive slope after the reference peak, although such positive increments here become smaller.

R(3) a general index of specific cycle conformity with reference cycles. The signs of amplitude differences during reference cycle expansions, contractions and the full cycle are examined. A similar investigation of signs is applied to the average change per month analysis.

As a summarizing measure, each of the S and R tables contains column averages representing the duration, timing, amplitude, and pattern of the cycles of individual series. Average deviations, between cycles, are presented for these factors. From the summaries of table S-4 and R-1, basic graphs are prepared for ease in interpretation (see chart 21). These graphs, which first struck the present reviewers as too complicated for ready comprehension, are really masterpieces of inclusiveness. From them the reader is able to obtain information regarding the average duration and its variability, the average amplitude and its variability, the average timing and a direct comparison between the slopes of the average specific and the average reference cycles.

In the examination of the many series included in the study, it was concluded that reference cycles of the same series bear a family resemblance to the average pattern (see charts 73 and 74). Likewise, the patterns of reference cycles for separate series were seen to differ characteristically. Averages of cyclical timing, amplitudes, and the average change per month, when subjected to tests of significance, were found to be significantly different among series. However, the authors observe "... that although cyclical measures of individual series usually vary greatly from one cycle to the next, there is a pronounced tendency toward repetition in the relations among the movements

of different activities in successive business cycles" (pp. 488, 491). It was also found that the variance ratios of full cycle durations were not large enough to be considered significant.

Arguments leading to the choice of the various statistical tools and methods (monthly data in preference to annual or quarterly data, seasonal adjustments, inter-cycle trend removal rather than a combined inter-intra-cycle trend removal, three-month averages at turning points rather than formal smoothing) are clearly enumerated in Chapters 6 through 8. The customary method of trend fitting and removal is abandoned because it tends to alter dates of the turning points, because it introduces greater uniformity in cyclical gyrations than is warranted, and because trend fitting is at best a rough approximation of true growth. It was observed that the elimination of random fluctuations by the application of "smoothing" formulas tends to change the dates of turning points (sometimes by as much as 6 to 10 months), tends to stretch out the durations and to dampen the amplitudes of brief cyclical phases, assumes an unwarranted inflexibility in the shape of cyclical rhythms since the formulas used are quite rigid, and does not eliminate random movements that extend over years.

In establishing the validity of averages as a basis of comparison, the authors were compelled to investigate the hypothetical influences of secular, discontinuous, and long-wave movements on general business cycles. For if these influences were predominant, the perusal of the average pattern of specific and reference cycles would yield trivial results. Using either the coefficient of determination (coefficient of correlation squared) or simple variance analysis by establishing significant groups, and sometimes both, the authors offer proof, though they grant it not conclusive,⁵ that the above mentioned factors do not alter the course of business cycles with any degree of significance.

Following is a highly condensed outline of some of the hypotheses tested and the implications deduced:

1. a. Hypothesis—that secular change tends to expand cyclical durations and amplitudes whereas secular decline tends to dampen them.

b. Deduction—with the exception of the amplitudes of call money rates, the influence of secular tendencies cannot here be considered significant.

2. a. Hypothesis⁶—that as industrial development progresses and a stage of "economic stability" is reached, business cycle durations tend to increase.

b. Deduction—although the hypothesis may be substantiated by us-

⁵ The authors point out the roughness of the use of simple variance analysis as a test of significance. Such a test assumes independence of the component elements which in fact is not true for cyclical components. Also, the series are in many cases too short in duration to permit any definite conclusion.

⁶ By F. C. Mills, "An Hypothesis Concerning the Duration of Business Cycles," *Journal of the American Statistical Association*, December, 1926.

ing dates of turning points derived from Thorp's *Business Annals*, the addition of more recent fluctuations and the use of turning point dates derived from the present study fail to support the hypothesis.

3. a. Hypothesis—that the business cycles after 1914 indicate a definite structural change.

b. Deduction—that although there is an apparent tendency toward intensified cyclical fluctuations after that date, the apparition is not clear.

4. a. Hypothesis—that long waves of from 50 to 60 years in wholesale prices⁷ influence the duration and amplitude of specific cycles.

b. Deduction—that although there is better evidence that an association exists between price trends and specific cycles in terms of cyclical duration⁸ than in terms of cyclical amplitude, the sample series indicate that the relations among the cyclical patterns are broadly similar during the periods of expansion and contraction in wholesale prices. Also, the authors find it difficult to state with any degree of certainty that wholesale prices have distinct long-period turning points, offering as evidence the several portions of the curves which are actually quite flat for extended periods of time.

5. a. Hypothesis—that within major cyclical movements of from 9 to 10 years (Juglar cycles) there appear three minor cycles with an approximate duration of 40 months (Kitchin cycles).⁹

b. Deduction—that no arrangement of the Burns-Mitchell specific cycles in groups of three consecutive cycles produces an approximation to the Juglar cycles of 9 or 10 years duration.

An interesting general finding concerning the nature and dating of cyclical ~~downward~~ is presented, not in the chapters on hypotheses, but in an earlier passage: “. . . when the turns in leading activities are comparatively ‘flat,’ crisscrossed by erratic movements and dispersed over many months, the turn in general business activity becomes elusive. The American business-cycle peak of 1937 approximates this type. . . . It may be noted parenthetically that this evidence [wide dispersion in the peaks of numerous series], so far as it goes, gives no support to J. M. Keynes’ thesis that “*the substitution of a downward for an upward tendency often takes place suddenly and violently, whereas there is, as a rule no such sharp turning-point when an upward is substituted for a downward tendency.*”¹⁰ Here is ample evidence, if it be needed, that many of Keynes’ original and undeniably brilliant contributions to economics require not blind acceptance as part of a system but critical empirical examination, verification, refutation, and re-synthesis.

Enough has been said to suggest the elaborate and careful nature of this

⁷ Long waves as originally derived by N. D. Kondratieff.

⁸ This was especially true during the contraction phase where variance analysis ratios proved significantly large.

⁹ Hypothesis as formulated by J. A. Schumpeter in his three schema postulate.

¹⁰ Page 83 and 83 n. The Keynes quotation is from his *General Theory*, p. 314. Italics supplied.

major contribution to the literature of cycle measurement and appraisal.¹¹ *Measuring Business Cycles* represents not only a synopsis of new statistical techniques applied to a very large number of cyclical questions, but also portrays in great detail the problems involved in applying many older techniques to individual series. As a systematic statistical analysis that may eventually lead to generalized explanations, the approach taken by Burns and Mitchell is by far the most significant effort made to date. Although the undertaking is tremendous in its scope, the development of the detailed picture of what happens during "typical" business cycles may prove tremendously fruitful.

No one can read this book without admiration for the care and scientific zeal of the authors. It exemplifies Wesley Mitchell's predominant intellectual passion throughout his whole life: the constant testing and searching to verify or to refute hypotheses and theories. It is good to know that the enormous loss to economics occasioned by Dr. Mitchell's death is at least mitigated in the field of cyclical research by the fact that the basic analytical techniques, established in this volume, will be further applied by Dr. Burns and the staff of the National Bureau in their continued efforts to produce "a systematic account of how business cycles run their course."

ROBERT F. BERNER
RALPH C. EPSTEIN

The University of Buffalo

¹¹ Minor criticism might suggest that the use of the phrase "rate of change," to designate an average absolute monthly spread between relatives, may not be the happiest use of terms; for such a measure represents an average monthly difference between two indexes but not the percentage rate by which anything grows or diminishes. But in other sciences, "rates" sometimes are expressed in absolute rather than proportionate terms (e.g., velocity as, say, miles per unit of time) so the authors may be justified, and the reviewers merely picayune, on this point.

The Keys to Prosperity. By WILLFORD I. KING. (New York: Constitution and Free Enterprise Foundation. 1948. Pp. xvii, 242. \$4.00.)

Intended as a restatement of "the basic essentials underlying national prosperity," this volume provides a sad commentary on what the proponents of the extreme right are willing to accept as "sound economics." Some of Dr. King's seventeen "keys to prosperity" would be accepted by nearly everyone wishing to retain a largely free-enterprise economy, although the full statement in certain cases reveals more than first meets the eye.¹ A few of the "keys," however, will make even ardent conservatives gasp. One is "Forcing of the thriftless to insure themselves and their families against the untoward vicissitudes of life," which is elaborated in the body of the book to mean no form of government-supported social security whatsoever and the substitution therefor of compulsory disability insurance, to be provided by private companies and paid for entirely by payroll deductions (p. 87). Dr. King believes that, "in large part," cases of individual need are due to "thriftlessness" (p. 86). Another key is "Avoidance of governmental deficits, in bad years as well as in good years." Another is "Withdrawal of government from the

¹ The seventeen keys are listed on page 233 of the book.

ownership, administration, or control of the operations of construction projects, farms, factories, banks, insurance funds, and transportation facilities." And, of course, there is the proposal that "the thrifty" be protected "from confiscation of their savings by taxation and otherwise." The reader is not told precisely what degree of progressiveness in tax rates represents "confiscation."

There are sections of this book which are reasonably satisfactory as an elementary exposition. But the scientific merit of the book as a whole is not unfairly illustrated by such passages as the following:

After 1929 in the United States, "Social security and unemployment insurance payments were used as bribes to keep people from working" (p. 23).

"Monopolies not sponsored by government, but yet able through monopolistic power to raise prices sufficiently to oppress the public, are and have been extremely rare and short-lived. . . . The more one looks into the matter, the more convincing becomes the evidence that in the United States, at least, all oppressive monopolies are protégés of government" (p. 27).

Since real "saving" was less in the 'thirties than the 'twenties, "the belief that 'over-saving' is a characteristic of depression would seem to lack any foundation in fact" (p. 45).

"The fact which [the Keynesians] overlook is that public spending to relieve distress nearly always perpetuates and accentuates that distress. In countries not rich enough to afford any considerable volume of charity, depressions are short-lived, for hunger soon compels able-bodied persons to accept jobs at the best wages obtainable. When the idle go back to work, production increases, and the depression inevitably fades away. In prosperous nations, by contrast, doles may keep millions idle for years, and their idleness brings about general depression, lessens the national output, and keeps the nation poor" (p. 81).

"When spending equals income, there obviously is no hoarding" (p. 131). But spending is defined to include not merely consumption but also "amounts spent for savings bonds, for life insurance, for savings-bank deposits, for building and loan shares, and for numerous other classes of investments" (p. 130).

"The facts thus far set forth make it abundantly clear that the prosperity of a nation is commonly bound up with that ultra-important ratio

$$\frac{\text{Net new spending power}}{\text{Average hourly earnings}} \text{ (p. 193).}$$

["Net new spending power" is defined as national income plus change in the sum of currency and total demand deposits.]

As a corollary, "Depressions are, therefore, brought about by the inflexibility of wage rates—by their failure to drop when the net total of new spending power declines" (p. 191).

"What labor monopolies, collective bargaining, strikes, minimum wage laws, and unemployment insurance have really accomplished is to cut down production, throw millions out of work, reduce total payrolls billions of dollars in a single year, discourage thrift, and promote inflation, lawlessness, and riots" (p. 213).

Passages such as these make it difficult to take seriously any of King's

proposals, which, on the side of maintaining economic stability, boil down to combining price stabilization through monetary control with wage rates made as flexible as dividends.

One final point will explain why I have chosen to devote this much space to a book of such dubious merit. *The Keys to Prosperity* is published by "The Constitution and Free Enterprise Foundation" and distributed by its parent, the Committee for Constitutional Government. There is apparently under way a program aimed at the colleges "to promote the free enterprise system and the best available book on economics, *The Keys to Prosperity*."² I must also report—with mingled sadness and mystification—that a brochure advertising this book (a "classic for today's students of economics as, for its time, was *The Wealth of Nations*") quotes a dozen laudatory opinions by "economists and other experts," at least six of whom are university economists with some national reputation.

R. A. GORDON

*University of California,
Berkeley*

²From a purchase order and contribution blank issued by the Constitution and Free Enterprise Foundation.

Business Finance; Investments and Security Markets; Insurance

Corporation Finance. By HIRAM L. JOME. (New York: Henry Holt. 1948. Pp. x, 676. \$4.00.)

Professor Jome has written a text for students whose only previous preparation has been a beginning course in economics. He has assumed, further, that most students using this book will not pursue further professional studies in the field. The book's scope, therefore, is considerably wider than that of most textbooks on corporation finance.

Part I on the Forms of Business Organization begins with a brief exposition of elementary accounting principles. These are based on the financial transactions of Bill Anthony, a "boy in your neighborhood," who subsequently goes into business with partners and eventually incorporates. This treatment lessens the danger that students will fail to see the connection of what they study with the everyday life they know.

The second part of the book is devoted to Corporate Problems. It includes chapters on corporate securities, capital structure, internal and external sources of financing and combinations. The treatment is not always reasonably balanced. The subject of working capital is discussed in about three pages, whereas three long chapters are devoted to combinations. For a non-professional student who is more likely to be concerned with small rather than large enterprise, working capital financing is surely a more important subject than corporate combinations.

Discussion of the legal phases of corporate finance, for the layman, should emphasize the need for conforming to the statutes and judicial precedents. Yet, discussing the legality of dividend payments, Professor Jome says that

paid-in surplus "should probably not be used as a basis for cash dividends," whereas the layman must be warned, first and foremost, that this is illegal in a number of states.

Part III of Professor Jome's book is headed Social Aspects of Corporation Finance, but actually includes a large amount of material ordinarily found in books on investment. There are chapters on the mathematics of investment, securities exchanges, the security laws, protective provisions in stock and bond contracts and investment trusts. Where the student is going to take a separate course in investments, as is often the case, a number of these chapters may be found inappropriate for the course in corporation finance.

There are well-chosen brief appendices that provide valuable readings for students.

The author has produced a readable, interesting text. Useful problems are placed at the end of the chapters. For nonprofessional students, especially those who are not going to take a separate course in investments and for whom considerable outside reading is not practicable, this book will be found among the most suitable available.

JULES I. BOGEN

New York University

Public Finance

Introduction to Fiscal Policy. By RICHARD W. LINDHOLM. (New York: Pittman. 1948. Pp. 248. \$2.75.)

This book is intended to fill a pressing need felt by instructors in public finance for a more adequate treatment of modern views on fiscal policy than is obtainable in most textbooks. In the few instances where major emphasis has been placed on the relation of fiscal policy to income, employment, consumption, and the price level, there has been a tendency to slight important matters covered in textbooks patterned along more conventional lines. Yet, if both tasks are to be accomplished in the same volume, public finance texts might become extremely cumbersome. One possible solution of this problem is an auxiliary text like the present, of modest length, and not too expensive, for purchase along with the major text.

In his preface the author states that the book is to be read by the "average student of political science, education, sociology and history, as well as business and economics." Yet everything of importance for fiscal policy is "concisely and thoroughly treated." It may be asked at once whether either of these objectives has been, or indeed can be, achieved. Fiscal policy cannot really be understood without a grounding in monetary theory, and an understanding of business cycle theory must underlie any but a docile acceptance of fiscal policy dogma. It is also a question how far a treatment of fiscal policy running to 225 pages can be at the same time both thorough and concise. Thoroughness has indeed been achieved with respect to the range of topics considered, but at the cost, in some instances, of rather brief treatment. The book commences with an introductory discussion devoted to the

relation between the public and private economies, the development of the fiscal role of the government from World War I to the present time, and definitions of the terms commonly used in the field of fiscal policy. There follows a chapter on what modern fiscal policy includes, which forms the pattern for the remainder of the book. The *laissez-faire* and the interventionist attitudes toward public finance are contrasted, and types and goals of fiscal activity are discussed. Fiscal activity can affect not only the general level of prices, but relative prices as well, and thus the way in which resources are used. But it is also important to maintain the correct volume of consumption, to preserve the proper balance between savings and investment, and to avoid unemployment; and this in turn requires fiscal intervention to assure an economic distribution of income. These desiderata are then discussed in the main body of the volume, in relation to (1) revenues and (2) expenditures.

In the two major chapters, on revenues and expenditures, there are parallel sections on each of the following: desirable prices, a desirable consumption level, a desirable employment level and a desirable income distribution. Desirable prices are stable prices. The desirable consumption level is that which at the same time maximizes labor effectiveness and provides savings adequate to assure the introduction of efficient machines, as well as a demand adequate to assure that these savings will be invested. The desirable employment level is full employment. The desirable income distribution is that which minimizes the reduction of efficiency through inadequate income (p. 63). For the most part these desiderata are assumed, which is appropriate for those acquainted with the logic by which they are reached, but which is apt to leave that student at a loss who is untutored in such matters as the relative desirability of rising, constant, or falling prices; the role of the propensity to consume; the equality of savings and investment; the inflationary implications of full employment; and the economic effects of unequal distribution of income.

The chapter on the revenue system is introduced by a brief discussion of built-in revenue flexibility. While it is pointed out that this automatic corrective "can aid greatly" in bringing about stable prices, consumption, and employment and a desirable distribution of income, somewhat more space might have been devoted to disposing of the more exaggerated claims that have been implicitly made by those who rely on stable tax rates to smooth out moderate fluctuations in income. Some attention is given to shifting and incidence of taxation, whence the analysis proceeds to the relation of revenues to desirable prices. The difficulties of steering a course between inflation and deflation are pointed out, and the "adjustable tax plan" for achieving stable prices is discussed. This leads to a treatment of war and postwar inflation problems and how they were met, followed by a catalog of the ways in which revenue-raising activity affects consumption (taxes, commodity sales, government borrowing, effects *via* the interest rate and gold sales). The possibilities of achieving full employment by way of the tax system with a balanced budget are explored, followed by a discussion of the effects of taxes on investment and consumption, and the taxation of idle money. Appropriately, the author devotes a relatively large amount of space to the role of the

tax system (including state and local) in the redistribution of income. The author's argument (p. 129) that the carrying charges of the debt "are certain to bring about a greater concentration of income in the upper brackets" should be noted by those advocates of fiscal intervention who have minimized the importance of the economic effects of the public debt.

A discussion of the effects of expenditures on prices during different phases of the cycle is followed by details concerning the wartime experience, government operation of yardstick plants, purchase of gold, interest expenditure, and debt repayment. The use of government expenditures to achieve a desirable consumption level naturally receives a relatively large amount of space, but the framework of the book works against a really adequate treatment of the relation between fiscal policy and willingness to invest. Some interesting remarks are made with respect to pump-priming, however, the position being taken that this device is useless unless first "needed changes in the relationship of different economic factors have been made" (p. 170). The chapter concludes with a treatment of the possibilities of effecting redistribution of income through government spending; vertical redistribution of income, social security, education, interest payments, and agricultural expenditures.

A final chapter deals with problems of administration. The Employment Act of 1946 is summarized and discussed, followed by a treatment of the problems of debt management, government debt and inflation, and the effects of interest rate policy. The problems related to successful administration of taxes and expenditures are next handled, including those of creating an adequate reserve shelf of public works, contract-letting, timing and the like.

This book is a sincere effort to bring the problem of fiscal policy down to the level of the elementary student. If care is taken to supplement its materials with classroom discussion of the relevant underlying monetary and business cycle theory, it should fill a needed gap. The question may be raised, however, whether even in an "Introduction" it would not have been advantageous to include some discussion of the latter along with the treatment of fiscal policy proper.

KENYON E. POOLE

Northwestern University

The Monetary Problem of France. By PIERRE DIETERLEN and CHARLES RIST.

Published for the Carnegie Endowment for International Peace. (New York: King's Crown Press. 1948. Pp. xiii, 98. \$2.50.)

This book by Mr. Pierre Dieterlen of the French National Economic Intelligence Center, in collaboration with Professor Charles Rist, is the second study of European monetary policies published by the Carnegie Endowment for International Peace. However, unlike Professor Leon H. Dupriez' account of the *Monetary Reconstruction in Belgium*, which dealt with the scope, technique, and results of the Belgian monetary reform,¹ the Dieterlen-Rist book is limited to describing France's problems of internal inflation and ex-

¹ For a review of Professor Dupriez' book by the present reviewer, see the *American Economic Review*, March, 1948, pp. 177-80.

ternal unbalance and then strongly advocating a solution along "classical" lines. The authors of the book, as Mr. Antonin Basch remarks in his foreword, urge such a solution "in plain and courageous language," not hesitating "to underscore the mistakes which were made and to emphasize what, according to their opinion, must be done to restore order and prosperity to the French economy."

Professor Rist, who wrote the preface and one chapter outlining the reversal in France's financial and economic policy in January, 1948, holds that France committed grave mistakes in the early postwar years. Military expenditures were increased after the liberation to a level that in no way corresponded to France's actual needs and was quite out of proportion to its resources; the government tolerated for several years a large budgetary deficit; and it embarked upon an extensive modernization and re-equipment program which was "on much too broad a scale considering the financial limitations of an impoverished country." These mistakes were further aggravated by the "obsession" with the theories of controlled economy and by the consequent attempts to achieve economic recovery "in an atmosphere of financial and monetary insecurity." To effect a "rational monetary policy oriented towards the return to a much greater freedom," Professor Rist recommends re-establishing domestic stability by balancing the government budget, renewing confidence in the nation's currency, and giving impetus to saving. Furthermore, since "reality is not concealed by throwing a smoke screen around it," domestic stability, according to Professor Rist, should be consolidated by creating open gold and exchange markets where the franc would be given a realistic value, thus restraining imports, stimulating exports, inducing the repatriation of French capital abroad, attracting private foreign investments to France, and last but not least, providing the necessary precondition to dishoarding private gold stocks (put at 3,000 metric tons or 3.4 billion dollars). With the help of the European Recovery Program, which enables France to import certain essential products without straining its foreign exchange market, Frenchmen could then face "fearlessly" the new freedom.

Some, though by no means all, of the ideas put forward by Professor Rist became official policy in January, 1948; yet, a new outburst of inflation occurred in the second half of 1948. In undertaking to explain why inflation is chronic in France, Mr. Dieterlen's masterly analysis, which constitutes the bulk of the book, so guides us through the labyrinth of France's currency and public finance that even the events subsequent to the completion of the manuscript (early 1948) appear in sharper perspective. That Mr. Dieterlen's survey does not appear outdated is due to the fact that the author traces the postwar developments back to the 'thirties while simultaneously concentrating upon the broad lines of the narrative rather than embroidering it with incidental details. As a result, the mosaic of French contemporary currency and public finance that he sets forth appears highly instructive and very interesting.

Mr. Dieterlen's analysis brings home to the reader the complexity of France's monetary problem. First of all, as the author rightly points out, French monetary and fiscal policy is "incomprehensible" without bearing in

mind French politics—the “liberation psychosis,” the swing to the left in the political assemblies, the disrespect of law (“a penchant quite in conformity with French temperament”), etc. The “anarchic attitude” that is a sequel of wartime demoralization was further aggravated by the inability of the French government to organize effective rationing that would assure the vital minimum to all its citizens. Under this “endemic disorder” any attempt at disinflating was exceedingly difficult.

Furthermore, the French government coalitions between the Socialist and Center parties brought about constant vacillation between economic controls and a liberal economic policy. Inconsistent compromises had to be made between those who favored controls and those who rejected them in principle while tolerating them for reasons of expediency. Yet, in Mr. Dieterlen’s words, the “French economy remains a capitalist economy; to maintain a certain number of excessive compulsions, and particularly monetary compulsions, is inefficient as well as detrimental to its mechanism. It is therefore necessary either to radically transform the economic system of the country (with all the political consequences that such a transformation implies) or to readjust the monetary policy to the pattern of the existing economy.”

Finally, although Mr. Dieterlen agrees with the French planners that the solution of France’s monetary problem “requires 130 per cent of the 1938 production” (actually industrial production is above prewar while agriculture is still below prewar), he strongly objects to any inference that “apart from external loans negotiated between governments and from the combined modernization of basic industries, there is no salvation for French economy and its currency.” Indeed, the author sees “other possibilities,” along the lines of Poincaré’s stabilization of 1926-28.

As Mr. Basch reminds us in his foreword, Professor Rist had “his share in Poincaré’s program, and the dominant impression we get in reading the book is that the authors are firmly convinced that France today can benefit from its own experience of twenty years ago. Is there, however, any such analogy between the problem that France faced in 1926 and that which confronts it today? As an answer to this fundamental question, let me point out that, at the start of Poincaré’s stabilization, the level of production was higher in France than in 1947-48; the government budget was broadly balanced; and stabilization could be accomplished through a simple change in the psychological climate: to renew confidence it was sufficient to persuade the French to refrain from demanding repayment of national defense bills and from sending abroad the francs thus obtained. Although the difficulties which France faced in 1926 should not by any means be underestimated, its present economic ills are much deeper today. France consumes more than it produces and is living on its capital and on other nations’ aid; its public finance position, in spite of the genuine improvement this year, remains uncertain; and quite apart from balancing the government budget through additional taxation, it must save enough to finance the large-scale investments it embarked upon to make good the war damage and the neglect of the interwar years. Under these circumstances, monetary stabilization is a more complex undertaking than twenty years ago. Yet, Dieterlen and Rist rightly

insist that without monetary stabilization no real economic and social progress can be achieved, and that by putting in order its money and public finance, France can enhance its stature in the Atlantic community.

M. A. KRIZ

New York, N.Y.

Monetary Reconstruction in Italy. By BRUNO FOA. Published for The Carnegie Endowment for International Peace. (New York: King's Crown Press. 1949. Pp. x, 147. \$2.25.)

Unlike its predecessors which were by European authors, this third book in the Carnegie Endowment series on European monetary policies was written by an American citizen, a consulting economist by profession and advisor of the Italian Economic Delegation in Washington. Yet, in reading this excellently written book, one is struck by the warmth of its author's feeling for his native Italy.

While full of comprehension for Italy's "truly formidable difficulties," the author is on balance critical of Italy's economic and monetary policies during the period from 1945 until early 1947 when the wait-and-see policy was finally abandoned. He, however, greatly admires the policy since 1947—the "financial masterpiece" of Luigi Einaudi, a professor of economics who, after an enforced semi-retirement under the fascist regime, reached high office in his seventies, serving successively as governor of the Bank of Italy, Deputy Prime Minister and Minister for the Budget, and President of the Italian Republic. The bulk of the book depicts the Italian inflation in terms of this fundamental approach, while the two concluding chapters deal with monetary and economic reconstruction, both through Italy's own effort and through the Marshall Plan.

Italy's inflation, by-product of the fascist economic and military adventure, was accentuated by the post-liberation drift "along the lines of least resistance." In the first place, according to Foa, the Allies were at fault because they neglected what might have been done to mitigate the impact of their expenditures in Italy (Foa holds that the military lira rate was inflationary—an allegation denied by Southard in "The Finances of European Liberation"). Secondly, the Italian policy-makers and administrators, veering toward *laissez faire* and deferring to the "views and whims of minor American officials," "welcomed the practical difficulties" that stood in the way of economic controls, thus buying economic freedom at the cost of additional inflationary pressure. Thirdly, as a result of an "unstable but working compromise" under which the conservative parties agreed to sliding wage scales and the freezing of employment in industry while the leftist parties refrained from pressing for extensive social reforms, wages caught up with or by the end of 1947 even outstripped the increase in the official cost of living—the comparative social peace of this period being secured at the price of a further impetus to inflation. Fourthly, the continuous government deficit financing, while to some extent merely reflecting the inordinate price rise, is blamed for the large additional inflation of 1946-1947. Finally, the premature, partial restoration of the free foreign exchange market in March, 1946 injected into the Italian economy "the

vagaries inherent in exchange depreciation." The new exchange regime was "unsettling," as well as "ultimately incompatible" with the maintenance of domestic price stability.

Among his criticisms, the author puts considerable emphasis on the absence of a "major operation on the currency," which would have entailed a temporary blocking of currency and a capital levy on liquid assets. Had such an operation been supported by conservative economic and financial circles, it would have had "a very good chance of success." Actually, the advocacy of stringent monetary and tax measures was left to the radical parties, while the opinion of those who supported such measures on purely technical and economic grounds carried little weight "in an atmosphere dominated by old-fashioned economic theories." Indeed, the Italian economists and the government were "excessively influenced" by concern lest a currency freeze be detrimental to "confidence" and the propensity to save. In any event, having discarded the idea of a currency reform, the government adopted a "spurious compromise" by simultaneously floating a long-term loan exempt from any future capital levy and declaring its intent to introduce such a levy in the near future. The loan was actually issued and a capital levy adopted, against the background of a rapidly deteriorating situation.

Finally the Bank of Italy, far from being "a purely passive vehicle of government policy," took the initiative in April and again in August, 1947 to arrest the inflation by "a vigorous and ruthless dose of credit control." As was repeatedly emphasized by Mr. Einaudi in defending himself against "savage criticisms," this was not a deflation but "a natural and necessary corrective"—a surgery, not therapy. The effects of the new policy on the exchange rates and prices were "sensational"; under the impact of large-scale dehoarding these dropped sharply, thus paving the way toward a new stabilization. In November, 1947, the lira became officially a floating currency—"an extremely bold and novel experiment," which turned out to be very successful.

The author is fully aware that his strong criticisms of the pre-Einaudi era may appear inconsistent with his post-Einaudi praise. To take an example, why should the floating lira of 1946 be bad while that of 1947 was excellent? In the author's opinion, the justification of 1947 rests partly on the differences in the underlying conditions, but essentially on "the vigorous prior intervention in the field of credit which had shaped the underlying economic conditions to such an extent as to make it possible to move toward a free exchange market."

Against the bright side of the Einaudi policy, the author sets its shadows—a 20 to 25 per cent decline in industrial production towards the close of 1947, as compared with the early months of that year. Yet the credit restriction, although quantitative rather than selective, "was not too severe." Indeed, it was necessary in order to "dam the tide of inflation" in a situation that was highly explosive. Another drawback was the growing recourse by industry to government credit, either directly or through the I.R.I., the powerfully government-controlled industrial holding company. The unexpected by-product of the Einaudi policy was thus a shift of the financing burden from the banks

to the government and the growing control of the government over large segments of industry. Last but not least, Italy's industrial economy was so weakened by credit restrictions that there resulted a "ludicrous" situation in which it was unable to absorb fully the fuels and raw material made available under the ERP. Under these circumstances, the author suggests stepping up the rate of Italy's industrial output to the level required to effectively absorb ERP aid. "Grave doubts," however, remain as to Italy's ability to reap the full benefits of ERP.

"Dominated by a combination of obsolete ideas and brilliant improvisations," Italy's economic policy arrested the inflation in 1947, while in 1948 it made remarkable progress toward closing the gap in the balance of payments. There is, however, another side to the picture. The balance-of-payments deficit has been cut merely because Italy's industrial output and national income, and therefore her imports of industrial raw materials and foodstuffs, have been lower than they would have been under conditions of fuller employment. In other words, Italy has solved its balance-of-payments problem largely at the cost of chronic unemployment, the present level of unemployment being almost twice the prewar. With a "bolder, more dynamic, and more aggressive" policy, such as Mr. Foa advocates in his conclusion, Italy might attempt to increase the rate of investment and the standards of consumption; but at what level, and in what way, would it then be possible to close the balance of payments? This is the fundamental dilemma that not only Italy but other ERP countries, together with the ECA, face today.

M. A. KRIZ

New York, N.Y.

Public Finance. By WILLIAM WITHERS. (New York: American Book Company. 1948. Pp. ix, 489. \$4.25.)

At the beginning of his preface the author states that he has prepared this general text "only because of the urgent need for a *Public Finance* conceived along new lines." The average American reader will infer that he means along Keynesian or New Deal lines, though by implication he criticizes existing texts, not only for their failure to integrate public finance with the main body of economics, but also because of: (1) their over-emphasis of factual detail and inadequate treatment of fiscal problems, (2) meager consideration of the American background of economic and political trends, (3) failure to maintain a socio-economic point of view, (4) failure to recognize the conflicts in economic and political philosophy which underlie all public finance thinking and discussion, (5) failure to view "public finance as a crucial aspect of the growth of the public economy and to appreciate its relationship with the private economy, and (6) lack of "a simple style which the student can follow without undue effort." He goes on to say:

If there is one major purpose of this book, it is to present the problems and conflicting issues which have arisen from the increasing encroachment of public finance on private enterprise. The theory and content of public finance are changing rapidly with the changing relationships between business and government. The author is aware that the New Deal is but one aspect of

a world-wide trend toward greater public economy. He believes that the teacher has an obligation to create an awareness of this trend in the minds of his students and to give them some appreciation of the seriousness of its implications.

The text, which is not more than half or two-thirds as long as most similar treatises in this field, is divided into six parts: introduction, public revenues, public expenditures, fiscal coordination, public debt, and the economics (incidence and effects) of public finance.

Aside from its emphasis upon Keynesian doctrines, one of the most unusual features of this volume is its Introduction. This takes up one-fourth of the entire text and is composed mostly of what might be called a tax or financial history of the United States. Thus the author supplies the background which his preface implies others have unfortunately overlooked. He sketches 150 years of the perennial conflicts of the large commercial, financial and other business interests on the one side, with the farmer, labor and small merchant interests on the other side—the struggles of the Jeffersonians against the Hamiltonians. Ardent New Dealers will be much more pleased with this sketch and interpretation than will their partisan opponents. The latter will probably dub the Introduction and, in fact, the whole book “propaganda,” whereas the author considers it much needed educational instruction or illumination.

Except for the Keynesian slant (not all of which is as new or radical as some seem to think), the treatment of the important taxes and classes of revenue commonly employed in the United States is not greatly different from that of most texts. Because of the long introduction and the smallness of the volume, less than the usual amount of space is given to the discussion of various taxes, expenditures and other phases of public finance.

The author accepts, and presents more clearly than many, most of the Keynesian theories of over-saving, under-investment, “pump priming,” compensatory taxing, spending, borrowing and debt management. He approves particularly the use of fiscal policy to control business cycles and to provide full employment of labor and resources, but repeatedly emphasizes “that public expenditures constitute a more effective business control device than taxes.”

He is usually careful to present traditional views as well as newer theories so that the student can compare their merits and weaknesses. This, together with his numerous introductory and summary outlines—often in question form—make his text unusually provocative and teachable. There are so many controversial matters, however, and so much is necessarily omitted from such a small text that the instructor should be unusually well prepared and not have too large a class for two-way discussion.

The author apparently has no doubt that there will be a growing acceptance of Keynesian doctrines and a more than proportional, as well as an absolute, growth of the public economy as compared with the private economy; in fact, that this is necessary for the survival of private enterprise—if its survival is possible.

It does not seem appropriate to itemize minor errors and inaccuracies which

are not more than usual for a first edition. Though this volume does not contain anything that cannot be found elsewhere, it is, nevertheless, a good brief presentation that should be made, and as such it is a welcome addition to the growing supply of texts in this field.

Apparently the author, after more mature thought, decided he may have overstated his case and that he should hedge it with a caution. At any rate, the reviewer was interested to find at the end of the volume the following which is a very good summary of what he had decided to say by way of comment:

We must exercise caution in using public finance to control business fluctuations. Economists are by no means in agreement as to the causes of business cycles. Until these causes can accurately be isolated and measured, fiscal policies for control cannot be planned with assurance. The cure of the business cycle "disease" is now in an experimental stage. Economic "doctors" prescribe remedies based on hypotheses rather than on sound scientific knowledge. Furthermore, the fiscal system is only one among many influences on the economic system, and its effects in bringing recovery must not be over-emphasized. To be sure, public finance exercises a broader and more powerful influence as the public economy grows. This growth may now have proceeded to the point where the public economy is the central balancing influence even in the United States, but other factors must not be forgotten, such as interest rates, the size of inventories, market speculation, and the rate of private investment.

While the reviewer is inclined to agree that, under certain conditions, there is probably much validity to many of the proposals of the author (who is much less extreme than some), he nevertheless considers that several of the fundamental assumptions have not been proved and does not agree that the "burden of disproving" these assumptions and conclusions based upon them "rests with private enterprise" any more than the burden of proving them rests with the proponents of the suggested changes.

ROY G. BLAKEY

University of California at Los Angeles

British Block Grants and Central Local Finance. By R. E. CARLSON. Johns Hopkins Univ. Studies in Historical and Political Science, Ser. LXV, No. 1. (Baltimore: Johns Hopkins Univ. Press. 1947. Pp. 222.)

It must always be very difficult for an outsider to grasp the significance and nuances of such intimate features of another country as are implied in its central/local fiscal relations, at least without extensive personal contacts. Professor Carlson has been singularly unlucky in the timing of his study of the British system of exchequer grants to local authorities. The war prevented him not merely from making such contacts, but also from obtaining access to a number of research studies relevant to his subject. It also greatly delayed not merely the completion of the work, which bears somewhat obvious signs of having been written at different periods, but also, it would appear, its publication. In spite of the use in the last chapter of an article on Derating which was published early in 1945, the analysis of the book essentially ends

with 1944. Since that date there has been a complete revolution not only in the grant system, but also in many of the powers and duties of local authorities which affect their financial position.

While these difficulties and deficiencies must seriously detract from the general usefulness of the book, Professor Carlson has brought together a great deal of information dealing with the grant system since 1888 which will doubtless be serviceable to American students who have not convenient access to further reading. The earlier chapters deal with the period up to the Local Government Act of 1929; the treatment is purely descriptive, and Professor Carlson relies heavily on secondary sources such as Dr. Newcomer's *Central and Local Finance* and my own *Finance of British Government*.

There follows a chapter on local government finance in World War II which is perhaps the best in the book—Professor Carlson has worked carefully through the documents—but apart from exhibiting in exaggerated form the traditional process of pull baker pull devil between the Treasury and the local authorities, by which changes in British local finance normally come about, the episode is now of historical interest only. The one substantial change of function, the nationalisation of fire brigades, has already been reversed—somewhat to the chagrin of the local authorities who now find themselves saddled with a vastly expanded service, quite unnecessarily elaborate for normal conditions.

Of scarcely more than historical interest also are the postwar plans which Professor Carlson examines at length in the following chapter. So far, things have not turned out much like that—except for the emphasis on equalising rateable value per head, on the one hand, and crude population figures on the other, as exclusive measures of the appropriateness of areas for local government purposes (a policy which can be directly traced to the Labour Party and National Association of Local Government Officers plans), and which is now being embodied, on the one hand, in the grant provisions of the Local Government Act of 1948, and on the other, in the efforts of the Local Boundary Commission to amalgamate counties which have substandard populations, much against the desires of the inhabitants, and regardless of physical features and natural lines of communication.

While not wishing to cavil over details, it is perhaps desirable to draw attention to certain points in which Professor Carlson's statements tend to give a misleading emphasis. In the first place, the importance of differences in valuation practice is exaggerated (and hence the usefulness of Rateable Value per head as a measure of relative wealth is underestimated). This is not Professor Carlson's fault: he was unaware of the very important information on rents and rates collected by the Ministry of Health and analysed by my husband and myself.¹ These figures are relevant to the problem of grants in at least three respects: (1) There is virtually no evidence of deliberate undervaluation in order to improve eligibility for grants; (2) on the contrary, a persistent tendency was observed for the poorer areas to be more highly valued than the more wealthy—an additional reason why the grant system

¹ *The Problem of Valuation for Rating*, Cambridge Univ. Press, 1943.

has been less equalising than was hoped; and (3) as a partial explanation of (2) there has been in the interwar period a persistent undervaluation of small new (post-1918) houses in relation to others. Thus, prior to the derating of industry, houses were, by current valuation practice, already enjoying a substantial degree of "derating," a circumstance which partly explains the agitation for industrial derating, as constituting in a sense a compensation for industry.

Again, it is not (as stated on p. 71) the assessment of rates on occupiers which gives rise to interlocal shifting of population; this is an inescapable phenomenon of any local tax where liability varies substantially from area to area. Nor was there "widespread default" by ratepayers during the depression; on the contrary, default was much lower than for the property tax in the United States. Indeed, the evidence suggests that a tax assessed on occupation can be more easily collected in depression than a tax on ownership; especially when liability represents only a modest proportion of even the unskilled labourer's budget—as is the case with rates,² thanks to the presence of the grant system.

Finally, on the problem of size in local government areas, it is very easy to exaggerate the wastes due to uneconomically small areas in the British local government system. In one sense, the problem has never been solved merely because the optimum size has continually expanded with improvements in transport and in administrative technique; in another sense, with the concentration of services under the county councils and county boroughs—a process which has been proceeding for a generation—it has lost, in the view of many, the greater part of its significance. The County Councils now administer directly the services for which a large area is appropriate.

The greatest weakness from which Professor Carlson's book suffers—and this again is not Professor Carlson's fault—is the omission of the revolutionary changes in local/central financial relations which have taken place since 1944. Here it is not possible to do more than list some of the most important of these. In the first place, the transfer of virtually all their trading services to national bodies has lost local authorities some revenue; but much more important, it has taken away a great slice of their more interesting powers and duties, thus seriously reducing popular interest in local government. The power of the central government has also been increased by denying local authorities direct access to the capital market, under an arrangement that looks like being permanent. Thirdly, the new health service, operating from the summer of 1948, has transferred local authority hospitals to *ad hoc* regional authorities (combining local authority and voluntary hospitals) thus removing an important source of disequalising expenditure. At the same time, it is already evident that both the health service and the educational changes are going to be much more costly than was originally envisaged; so that eventually the pressure on local treasuries will be heavy.

Transcending all other changes in importance, however, are the provisions

² Cf. J. R. and U. K. Hicks: *The Incidence of Local Rates in Great Britain*, Cambridge Univ. Press, 1944.

of the Local Government Act of 1948, and more particularly the new grant regulations, which substitute an "equalisation grant"³ based, almost solely, on rateable value per head and current expenditure, for the block grant, and available only to those areas whose rateable value per head (as adjusted by the provisions of the act) is less than the national average. In this new system traditional Treasury caution has been thrown to the winds, not merely in acceding to an annual revision of grants, but also in agreeing to underwrite additional local expenditure in a manner which, viewed in the light of the past, is frankly staggering. It is already apparent that the invitation to additional spending by the poorer areas is not falling on deaf ears.

URSULA K. HICKS

Oxford University, Oxford, England

³ Cf. U. K. Hicks: *The Grant Provisions of the Local Government Act*, Bulletin of the Oxford Institute of Statistics, January, 1948.

International Economics

Foreign Economic Policy for the United States. Edited by SEYMOUR E. HARRIS. (Cambridge: Harvard Univ. Press. 1948. Pp. xiii, 490. \$6.00.)

An excellent group of essays by twenty-four economists and civil servants has been brought together in this volume by that most indefatigable of editors, Seymour E. Harris. The book does not attempt to cover all aspects of American foreign economic policy; there is no mention, for instance, of shipping, aviation, or telecommunications, no discussion of the work of the Economic and Social Council of United Nations, the International Labor Organization, or the Food and Agriculture Organization, and no systematic consideration of problems relating to strategic resources, economic development, or international investment. But the central issues of policy are presented with clarity and subjected to penetrating analysis.

The book is divided into five parts. In the first, Thomas C. Blaisdell, Jr., and Eugene M. Braderman describe the organization through which the government of the United States formulates and administers its foreign economic policies. In the second, eight authors outline the problems presented to American policy-makers by the economic difficulties of other countries; John M. Cassels and Randall Hinshaw write on Great Britain, J. K. Galbraith on Germany, Robert W. Barnett on Japan, Robert B. Bryce on Canada, Henry C. Wallich on Latin America, Paul A. Baran on the Soviet Union, and John D. Sumner on China. The essays in Part III deal with international agreements and agencies: Allen G. B. Fisher and Camille Gutt explain the policies of the Bank and the Fund, Winthrop G. Brown describes the General Agreement on Tariffs and Trade, and Harry C. Hawkins discusses the problems that arose in negotiating the Charter of the International Trade Organization. Part IV is devoted to the European recovery program: Edward S. Mason is concerned with its significance in terms of political strategy, Sidney S. Alexander with the extent of Europe's needs, Calvin B. Hoover with the prospects for self-help and mutual aid, Kirtley F. Mather

with the relation of the program to American resources, and Lincoln Gordon with the operating problems of the Economic Cooperation Administration. In the final section of the book, the theoretical issues raised by the concept of fundamental disequilibrium are discussed by Alvin H. Hansen, Gottfried Haberler, Paul A. Samuelson, Robert Triffin, and Thomas Balogh.

No reader of these essays can fail to be impressed with the increasing scope and complexity of the international economic interests of the United States, the predominance of our influence, and the extent of our responsibilities. We must learn how to deal with the complete collectivism of the East and the partial collectivism of the West. We must put our defeated enemies back on their feet and, until we do so, we must continue to feed them. We must finance the reconstruction of Europe, insure the recovery of production, and promote the expansion of trade. We must contribute to the economic development of the backward areas of the world. We must take the lead in organizing and strengthening the agencies of international cooperation. And we must act, in all of these matters, with such wisdom, skill, and circumspection that other nations cannot take offense. This is the prescription; it will not be an easy one to fill.

The central theme of the book is the shortage of dollars. It appears in the discussion of the British balance-of-payments deficit, in the description of the economic prostration of Germany and Japan, in the study of trade between the East and the West, in the examination of the problems of Latin America, and in the analysis of the difficulties of Canada. It explains the qualifications that have been written into the postwar agreements on currency and trade and the disappointing performance, up to now, of the Bank and the Fund. It justifies the European recovery program. Most of the authors touch upon this subject, in one way or another, and many of them discuss its causes and explore the possibilities of a cure.

Among the causes, emphasis is placed by some of the contributors upon such structural maladjustments as disorganization of production, international indebtedness, loss of foreign assets, markets, and earning power, and relative changes in productivity, and by others upon mistaken national policies: heavy public expenditures, monetary mismanagement, and the inability or unwillingness of governments to permit necessary adjustments. The prospects for the restoration of equilibrium are viewed with varying degrees of skepticism. Balogh and Haberler represent the two extremes. According to the former, balance between the United States and the rest of the world is unobtainable: the superior technical efficiency of American industry will enable it to undersell its competitors all along the line. According to the latter, balance can theoretically be achieved through adjustment to new conditions of comparative cost; but it is recognized that adjustment may be obstructed by politics. As Samuelson remarks, moreover, disequilibrium may persist as long as the United States is willing to lend and lose and lend again. There is no disposition, however, to force a restoration of balance by prompt alteration of rates of exchange; a free market, at the present time, would not evoke an adequate flow of trade; it would reduce Germany, Austria, Greece, and Italy to starvation and chaos; it would impose upon Western Europe and the

United Kingdom a standard of living that might prove to be politically untenable. But most of the authors would agree that a solution must eventually be sought in devaluation of currencies, suppression of inflation, and enhancement of productivity abroad and in maintenance of employment and increasing absorption of imports by the United States.

Mr. Harris is apparently a strong believer in freedom of speech. At any rate, he has permitted his book to close with a slashing attack on American policy that is frequently inaccurate, generally ill-tempered, and completely inconsistent with everything that has gone before. Mr. Balogh, in the concluding essay, denounces the Bretton Woods Agreements, the ITO Charter, and the General Agreement on Tariffs and Trade, and presents a special plea for the adoption, by the United Kingdom, of a permanent policy of deliberate and systematic discrimination.

Most of England's troubles, it appears to Mr. Balogh, have their origin on this side of the Atlantic. We are too big and strong; anything we do is sure to be wrong. We are determined to have a depression: our imports will fall and England will suffer. Inexplicably, we may prosper: our competitive ability will increase and England will suffer. Our motives are unworthy: we espouse policies that "will tend to perpetuate the present superiority of the United States in relation to other industrial exporters" (p. 474). We won't commit ourselves to cut our tariffs when we fall into depression (p. 473). "The fact that neither the General Agreement nor the Charter outlaws tied loans—a most powerful and discriminating means to promote exports—shows that the United States, well aware of its war promoted superiority, means to retain it" (p. 478). We persistently discriminate against efforts to establish a large-scale economic territory in Europe (p. 477). Small wonder that "the poorer countries begin to suspect that—under the guise of attractive slogans—their relative and absolute inferiority is to be stabilized and their social stability is to be sacrificed . . ." (p. 476).

Much of this is deliberately misleading and much of it is simply untrue. The United Kingdom did not seek to include in the Havana Charter any provision requiring the United States to reduce its tariffs unilaterally in the event of a depression or any provision whatsoever relating to tied loans. It may have escaped Mr. Balogh's attention that the American tariff has been reduced, through trade agreement negotiations and price changes, from a weighted average ad valorem equivalent of 48 per cent in 1930 to one of 15 per cent in 1948. He should, however, be aware that a small minority of American loans is tied, that the 3¾ billion dollar loan to the United Kingdom was not, and that the many billions extended in grants and loans under the Marshall Plan are not. The tied loans are open to criticism, but to complain of them and to ignore the much larger volume of untied loans and grants, of which England has been the principal beneficiary, is to be less than honest in argument. It should be noted, finally, that the allegation of American opposition to the creation of a large-scale economic territory in Europe will come as something of a surprise to the administrators and the foreign representatives of the ECA.

There is one American policy of which Mr. Balogh apparently approves.

He likes the generosity of ERP and looks for more generous treatment by the United States in years to come. But he hopes "that the price paid in renewed political conflict will not be too high and that undue fiscal restrictions on the American administrators of the program will not result in humiliating and harmful dictates of policy leading to strife in Europe and worsened relations with America" (p. 480). A fitting comment appears at the close of the essay by Mr. Mason: "Let us not expect too much from this program in the way of popular approbation abroad. Even if all the European requirements stated in the Paris report were supplied without question by the United States, I doubt whether we should be regarded as a generous big brother. The figure of Lady Bountiful is not an endearing one in literature. And when the position of Lady Bountiful is taken by a country which has half the world's industrial output and enjoys a standard of living unmatched elsewhere, it is too much to expect that she shall be voted the most popular member of the class. The one most likely to succeed, perhaps, but not the most popular" (pp. 296-97).

CLAIR WILCOX

Swarthmore College

Major Problems of United States Foreign Policy, 1948-49—A Study Guide.
(Washington: The Brookings Institution. Pp. ix, 246. Paper, \$1.50; cloth, \$3.00.)

In 1946 there was established, as an integral part of the well-known Brookings Institution, an "International Studies Group." This group, composed of some eight or nine members of the Brookings staff, is engaged under the able and experienced direction of Mr. Leo Pasvolksy with the important undertaking of producing an annual document dealing with United States foreign policy. The declared purpose of the document is, first, "to aid in the development of an informed and responsible American public opinion on Foreign Policy" and second, "to contribute toward a more realistic training of the increasing number of American specialists in International Relations." In keeping with this dual purpose the document is aimed primarily at students in colleges and universities, discussion group leaders, public lecturers, editorial writers, commentators, and professional men generally.

The document under review is the second of the annual volumes. Compared with its predecessor, it exhibits a marked improvement in format, style and organization, adds a considerable body of new material and reflects an understandable shift in content and emphasis. At the same time, it retains the identic assumption regarding foreign policy and the same approach to its understanding that were emphatically visible and widely applauded in the initial volume. Although neither the assumption nor approach are altogether new, their explicit formulation is sufficiently unorthodox to give significance to the entire venture. The document is not just another book on foreign policy.

The assumption is the relatively simple one that an understanding of

foreign policy is enhanced by looking at it through the lenses of responsible government officials charged with the duty of making decisions. The approach is called the "problem" method.

Assumption and approach combine to inject into the study of international relations a spirit of sharp realism, admirably calculated to serve as a counter balance to the approach of many extremists who, either unaware of the restraints imposed on policy making or restless in the face of them, advocate "ideal" solutions to concrete problems. Followers of Mr. Wallace and advocates of World Government will not find in this document anything which necessarily refutes their views on foreign policy. What they will find is a different approach, a different "time" orientation and a sharpened area of concentration. The document speaks not to the dilemmas of a distant future, but to the problems of a distraught present.

Among the problems of the present, the Japanese Peace Settlement, Economic Assistance to Latin America and the Veto Problem in the United Nations were considered sufficiently pressing to justify special treatment in what are called "Problem Papers." (The conspicuous absence of Germany is explained by its presence in the preceding volume and by subsequent coverage in monthly supplements which keep the basic documents up to date.) The "Problem Papers" occupy approximately half the volume, the other half being devoted to background material describing "The Present Position of the United States in World Affairs" (approximately 30 pages), a "Review of Major Problems," analyzed both geographically and functionally (approximately 100 pages), and helpful appendices including a description of the complicated mechanism for the conduct of United States foreign relations.

The "problem" approach reaches beyond description, in that specific "issues" are ferreted out, identified and then broken down into alternative courses of action, only one of which, presumably, may be chosen by the harassed policy maker. This approach, which bears some resemblance to the intellectual processes embedded in the well-known military "estimate of the situation," presumably reflects actual practice and in so doing brings instruction in foreign policy down to earth. By way of example, the "Problem of Economic Assistance to Latin America" is broken down into six major issues, each calling for policy decisions to which are added four other issues on which an expression of United States policy would be desirable, even though decisions may be postponed. A typical issue of the former kind concerns steps to be taken to stimulate private investment, one alternative being "to pursue a hands-off policy until the Latin American Governments themselves create a favorable climate for foreign investment," the other being to attempt to negotiate agreements along the lines set forth at Bogota. In the body of the document reasons for choosing each alternative are concisely indicated without, however, any expression of preference.

Perhaps enough has been said to show the nature of the volume under review and the character of the enterprise of which it is an important part.

Great care has been manifested in its preparation including, during the drafting stage, the solicited criticism of many individuals concerned directly or indirectly with foreign policy. Its virtues, and they are virtues of a high order, are that it has tended to supply a spirit of realistic inquiry in a field not altogether noted for rigorous analysis. Furthermore, it may be expected that the work will continue to improve as experience demonstrates the need, which this reviewer, at least, believes to exist, for reaching beyond the present effort to one which not only identifies and fragmentizes issues, but relates them back to a set of carefully analyzed "interests" ("objectives"?) so that value judgments may be made with a clearer understanding of their implications for the national security, world stability, the economic well-being of the people or the desire to encourage democratic tendencies the world over. If it is possible to speak of a weak spot in the present volume, it is believed it can be found in that part of the document. (pp. 9-27) in which this is attempted. Lack of rigour is evident, not alone in the verbal confusion caused by the too indiscriminate use of such terms as "aims," "objectives," "responsibilities," "interests," "ideals," "principles," "attitudes" and "forces," but in the failure to show clearly the character and extent of our interests, their relation to general policies and the relation between general policies and specific commitments. It is worth remarking that in the absence of some such frame of reference, value judgments are apt to be obscured and hunch, common sense, or assumed wisdom tend to steal the show.

The document under review, despite the great care which has gone into its preparation, provides this frame of reference only partially by a brief preliminary sketch dealing with the "bases" of United States foreign policy followed by a careful but purely descriptive account of recent developments. This is believed to be insufficient even after allowance is made for the fact that the document attempts to avoid value judgments by refraining from advocating any particular policy or set of policies. Alternatives are stated but not "evaluated." Given the purposes of the publication, this sense of restraint is commendable. It may be indulged, however, while still recognizing that value judgments are implicit in the sifting of "relevant" facts, the identification of issues and the statement of alternatives as Messrs. Gromyko, Vyshinsky and Molotov would readily discover should they chance to study them. What is urged is not that value judgments be made explicit but that the basis for making them be analyzed more thoroughly. Or, to repeat, that a better framework be supplied against which to project the analysis of facts, issues, and alternatives.

It may be objected that this would require another book and thus falls outside the scope of legitimate criticism. By way of answer it is suggested that this is the heart of the business and thus deserves more respectable treatment by a group which in the short space of three years has already demonstrated its high capacity by making a worth-while and distinctive contribution toward creating a more informed opinion on foreign affairs, and a better understanding of the practical dilemmas confronting policy makers.

HARDY C. DILLARD

University of Virginia

Great Britain in the World Economy. By ALFRED EDWARD KAHN. (New York: Columbia University Press, 1946. Pp. xvii, 308. \$4.00.)

The value of this study lies partly in the clear and precise account which it gives of the long-run trends which weakened and undermined the British world economic position during the years 1919-1939 and the economic and policy adjustments of that period. It lies partly in the theoretical framework within which these events are discussed.

Mr. Kahn is in search of an "organic theory of international equilibrium" which will prove more helpful and enlightening for the study of the basic changes in the world economy now taking place than the "accepted" theory. The only fruitful analysis of the balance of payments "must," he feels, "be in terms of actual cyclical and secular process, of actual complex patterns of cause and effect in mutual interplay and in continual transition, constantly disrupting and readjusting to a real world." He criticizes "accepted" theory mainly because of its tendency to isolate a single cause of maladjustment and then rest content with showing that equilibrating forces will be set in motion. This neglects the nature of the transition during which the equilibrating forces are operative, the cyclical and secular factors that may make the adjustment difficult or easy, and many other relevant considerations.

For these reasons, Mr. Kahn presents his material as, in part, "a case study" for the development of an organic theory. In developing this approach he defines "equilibrium" in a country's balance of payments as "a situation in which over a period of time long enough to exclude seasonal and minor discrepancies the total supply and demand for means of foreign payment are equated, without continuous short-term capital or gold movements in one direction, or sizable fluctuations in the external value of currencies, or default, or measures of control employed to maintain this equality."

Mr. Kahn does not, as sometimes happens, neglect his theoretical approach when dealing with his historical material. He consistently uses the British experience to illustrate the simultaneous operation of the various complex elements leading away from and towards equilibrium that are to be part of the completed organic theory. His emphasis throughout is on the basic long-run trends that have been responsible for weakening the British international economic position and on the economic and policy adaptations to this changed position. He fully recognizes, of course, that the changes in public policy of 1931-32 were a revolutionary readaptation to a changing world situation after the failure of an attempt to rebuild along traditional lines. But he consistently treats the real determinants of British economic policy as independent economic forces, largely beyond the power of British policy to control, and operating continuously over the whole period.

These real determinants are discussed in a general chapter on The Deteriorating Position of British Industry and two chapters on The Decline and Adjustments of the Staple Trades and The Expanding Industries. These chapters are very well balanced. They contain a good deal of cogent criticism of industrial organization and management in Great Britain, particularly of the so-called industrial self-government of the period, but they end on a hopeful note. Mr. Kahn concludes that there was, during these years, a sub-

stantial adjustment to an altered international competitive position in the staple trades, and a successful adaptation of the economy as a whole to the altered international position of British industry.

With this preparation Mr. Kahn analyzes the basic trends in the British balance of payments from 1919-1939 and the adjustments of policy before and after the abandonment of the gold standard. It is in these chapters that the character of the book as a case study towards an organic theory of international equilibrium is most strongly brought out. This gives to a survey of very familiar material an interest and freshness of treatment that will be appreciated by those who have long labored in the field.

The basic problem posed by Mr. Kahn's book is whether or not, in the interwar period, the adjustments in the British economy to an altered international position laid a solid foundation for working out the long-run problems that have persisted into the post-World War II period. In this connection his discussion of the shifting geographical pattern of British exports and imports over the long period 1815-1939 has a special value. In this long perspective he finds that the withdrawal of Britain into a "more closed and regulated regional system, with Britain as the center, attempting to maintain ever closer economic ties with younger, largely primary producing countries of the empire and sterling area" was but an intensification of trends apparent well before 1929 and even 1914. Mr. Kahn, however, reaches a rather firm conclusion that the opportunistic and defensive policies which characterized British foreign trade policy at the end of the inter-war period were being pursued at too great a sacrifice of the advantages of genuine multilateralism. Had not the Second World War intervened, the time would have been ripe for a reversal of policy.

In concluding chapters on The Position of Britain in the Post War World, written during the war itself, and before the Marshall Plan, Mr. Kahn ventures some speculative answers to his basic questions. Since these look beyond the readjustments of the immediate postwar period they have not become out of date. What Mr. Kahn foresees is a period of even greater strain on the British balance of payments than in 1919-39, partly due to the stimulation of competing industrial production rather than primary production by international investment. This can, however, be substantially offset, by a far more effective reconstruction, reorganization and re-equipment of Britain's productive machine for the satisfaction of the demands of the home market than was carried through from 1919-1939. Much will depend on whether or not the sum total of world trade will be increasing so that a diminished share in this trade by the United Kingdom will not entail an absolute decline in British foreign trade.

Mr. Kahn's book contains many interesting discussions of special points such as the long-range shifts in Britain's terms of trade, the changing relations between her capital export and her trade balance, and the changing pattern of triangular settlement between the United Kingdom, the rest of the sterling area, and the rest of the world.

WILLIAM ADAMS BROWN, JR.

Brookings Institution

Le Plan Marshall. By FRANÇOIS PERROUX. (Paris: Librairie de Médecis. 1948. Pp. 222. 200 fr.)

Grandeur ou Décadence du Plan Marshall. By J. LÉVY-JACQUEMIN. (Paris: Librairie Marcel Rivière et Cie. 1948. Pp. 75. 120 fr.)

These two French books on the Marshall Plan may be considered remarkable not so much for their content as for what they do not say. In neither of them is any word of the concrete recovery problems facing France or Europe. Of the three aspects of the Marshall Plan—self-help, mutual help and aid from the United States—these books deal only with the last.

If they deal with the Marshall Plan mainly from the familiar point of view of United States aid, however, neither book is without interest for the American economist. Perroux' most interesting essay deals with the responsibilities of an "internationally dominant economy," *i.e.*, the United States. Lévy-Jacquemin offers a new theory of international economics and a concrete proposal to replace the antiquated "equilibrium system." Neither book may be said to deal definitively with the Marshall Plan or disequilibrium in international trade and finance; both are readable and suggestive.

Perroux' five essays, first published over the thirteen months from June 1947 to June 1948, appear to have been designed to reassure worried French readers. The first article, apparently written before both the Harvard speech and the Molotov response to it, defends economic cooperation among neighbors, whatever the attitude of the big powers. The last three set forth an analytical description of the Marshall Plan and its evolution from 19th century private lending via the "neo-liberalism" of the Bretton Woods agreements.

It is in his second essay on the internationally dominant economy, however, that Perroux is at his most paradoxical and suggestive. The Marxist view of economic imperialism, he indicates, is naïve. The theory of imperfect competition has been inadequately applied to international relations, but it is clear that a dominant economy may have a more effective course of action, in the long-run, than short-run exploitation. The intentions of the United States, by inference, may be held to be honorable because the United States, like any other oligopolist, finds it pays in the long run to behave honorably. International economics based upon trade among equal partners is irrelevant to today's problems.

Lévy-Jacquemin is also disposed to jettison a great deal of the classical apparatus, including primarily the major premise of a continuous tendency to equilibrium. In his view, the system operates to perpetuate disequilibrium. Countries should be ranked in a system A, B, C, and D, each tending to have an export surplus *vis-à-vis* countries in the next lower category. At the present time, the United States finds itself in category A; Canada, Argentina, Brazil, etc., in B; Britain, France, Italy in C; and at the end of the scale in D, the backward and underdeveloped countries of the world. The tendency of the United States to perpetual surplus arises from the American propensity to oversave or underconsume combined with our political unwillingness to spend on internal public works.

The measure needed to make this system function, in Lévy-Jacquemin's view, is loans by the United States to backward areas made through the countries of Europe. Offshore purchases under the Marshall Plan are a step in the right direction and a major advance from the tied loans of the Export-Import Bank and Bretton Woods, which are incompatible with multilateralism. After the fruition of the current European investment, however, the next requirement is continuous loans from A to D, so contrived as to let B and C balance their accounts multilaterally.

This thesis cannot of course be taken at its face value. It is asserted rather than argued. And far more important, it neglects the propensity of the United States to import on balance from raw material and tropical areas. Yet it contains flashes of insight, which have a bearing on the rationale behind Point 4 of President Truman's inaugural speech.

In short, both books are worth a perusal.

C. P. KINDLEBERGER

Massachusetts Institute of Technology

Business Administration

Marketing: Principles and Methods. By CHARLES F. PHILLIPS and DELBERT J. DUNCAN. (Chicago: Richard D. Irwin. 1948. Pp. x, 729. \$6.00.)

Introduction to Marketing. By PAUL D. CONVERSE and FRED M. JONES. (New York: Prentice-Hall. 1948. Pp. viii, 606. \$5.65.)

The basic pattern of textbooks in marketing was established some years ago and has seldom been violated. New books, and revisions of old ones, have been justified chiefly by substitution of current statistics and citations for obsolete ones, but the concepts and topics have remained unchanged. The books under review exhibit minor variations from the pattern, but are unlikely to provide any surprises for marketing instructors. On the other hand, judging from the unsophisticated discovery of marketing facts recently evidenced by anti-marginalist writers in economic journals, those economists who have never read any marketing book might do very well to examine one or both of these.

The Converse and Jones volume is an offshoot from a well-established marketing textbook by Converse. It is deliberately designed as a more popular presentation, and seems aimed at high school students or nonacademic small businessmen. Perhaps the market for such a work commercially justifies its publication. It hardly seems suitable, however, for a course in marketing at the collegiate level. The chief innovation of the book is its emphasis on retailing; 368 of its 588 text pages are devoted to this topic. The approach of this section is on "how to run a store." This undoubtedly has an appeal for thousands of readers, since there are more small businessmen in retailing than in any other economic category. For such readers, this book may be considered better than the usual popular work on retailing, since it does provide some background of general marketing. Moreover, students find retailing easier and more familiar than any other phase of marketing, and the opera-

tional approach appeals to many of them as "practical." The condensation of other standard marketing material, however, means that a student using this text only would be inadequately informed on marketing in general. Nor would he find in this volume any guide to further reading, for there are no bibliographies and the footnote citations are notably sparse.

The Phillips and Duncan volume covers the usual material of marketing in a thoroughly satisfying way. The statistics and references are copious and up-to-the-minute, and the statistics are better organized and digested than is common in marketing books. In its effect on most marketing writers, the inauguration of the Census of Distribution in 1930 was the worst thing that could have happened to development of the study of marketing, for it has resulted in textbooks filled with figures on the number of middlemen of each type, their sales volume, etc. Phillips and Duncan have done better by these data, in pointing up the significance of various Census tabulations. They have, beyond that, been conscientious in seeking for non-census sources to bring their figures up to date in so far as possible. Further evidence of careful preparation is shown by the excellent reading references and the listing, for each chapter, of Harvard cases appropriate for use with the text material.

A differentiating feature of the book is its emphasis on the consumer. Two of the early chapters are devoted to the ultimate consumer's buying motives and problems and most of one chapter to consumer statistics; this is followed, contrary to custom, by a chapter on the industrial user. The preface explains that it is recognized that the customer—whether household consumer or industrial user—is the proper starting point for all marketing plans. But the text material goes beyond the viewpoint of the sales manager and the strategy of exploitation of the consumer. In one chapter, the marketing system is examined from the viewpoint of the consumer, and is found somewhat wanting; there follows a discussion of the "consumer movement" and the business and government aids to the consumer. The authors' interest in the consumer is shown further by a lengthier section on consumer co-operatives than is usual.

While Phillips and Duncan do not go very far in satisfying the current demand for development of marketing theory, their chapters on pricing remain the strongest to be found in marketing texts. The theory of monopolistic competition, which Phillips introduced to marketing texts in his 1938 edition, is briefly but adequately explained. It is followed, however, by the customary series of unrelated and unanalyzed paragraphs on various pricing policies used by manufacturers and merchants. These marketing facts regarding pricing practices stand as a challenge to economists and marketing students alike; perhaps theory in both fields may be improved by more serious consideration of the relation of marketing price policies to economic theory.

E. R. HAWKINS

Johns Hopkins University

Introduction to Business. By LEWIS A. FROMAN. (Chicago: Richard D. Irwin. 1948. Pp. xxv, 601. \$4.25.)

This book is written as a text to be used in a first course in business.

Its usefulness, as is the case with textbooks generally, will depend on such factors as the relation of the course to other courses in the curriculum, the equipment of the students and the reliance placed by the instructor on the textbook.

In many institutions the typical student in a first course in business is a college freshman without business experience who is taking courses in the social sciences simultaneously and who will ultimately have the benefit of a comprehensive curriculum. At the other extreme is the beginning student in the evening division who is likely to be more mature and experienced but who will not be taking any other "general" course at the same time and who may benefit from an introduction to the social sciences as well as an introduction to business.

Dr. Froman's book appears to be planned with the interests of the latter group of students in view. In a section on "The Functions of Business Enterprise" there is a page on the hedonistic concept of choice and a paragraph which distinguishes capitalism, socialism, and communism. Treatments of roundabout production, risk bearing and Utopian socialism are included.

The other sections of the book include one on "The Nature of Business Enterprise" containing chapters on Manufacturing, Extractive, Public Utilities and Trade and Service Industries as well as Financial Enterprises and Agriculture. The section on "Problems of the Business Unit" has chapters on Form, Size, Internal Organization, Management Controls and Employee Relations. The final section is concerned with "The Role of Government" and includes chapters on Monopoly Regulation, Taxation and Government Enterprises.

These matters are presented so that the student always remains at a safe distance from the turmoil, triumphs and anxieties of business operations and the problems confronting society receive greater emphasis than those which consume most of the time of business management. For instance, the discussion of public utilities includes paragraphs on natural monopoly, the importance of coal as a source of energy and defines watergas and coke-oven gas. It gives little idea of the nature of the problems to which the management of a public utility devotes itself and the characteristics which would distinguish a well-run utility from one poorly run.

The chapter on financial enterprises devotes a paragraph to the fact that national banks issued bank notes before 1935 and a page and a half to credit unions. It gives no idea of commercial banking as a business in which some prosper and others fail or the relationship of the business enterprise to its banker. Bonds are treated only from the point of view of the investor and not from the point of view of the borrower.

There are some who believe that a major function of the introductory course in business is to provide an insight into business as a career. Not only the college freshman, but a large proportion of the students in clerical or other routine jobs who attend evening courses have very little idea what an executive of a copper company, a tire manufacturer or a brokerage house really does. Every course might well strive to indicate the problems, the

skills, and the challenges which specific careers in business afford. No textbook can do this job by itself but every introductory text might well assume its share of this responsibility. Dr. Froman is likely to find that his colleagues in the social sciences will supply any deficiencies he might leave if he sacrificed breadth for penetration and inspiration. He cannot assume that similar help is available to supply the demands of the young man or woman seeking guidance toward a career.

ROY J. BULLOCK

Washington, D.C.

Industrial Organization and Markets; Public Regulation of Business

Small Business: Its Place and Problems. A Research Study of the Committee for Economic Development. By A. D. H. KAPLAN. (New York: McGraw-Hill. 1948. Pp. xiv, 281. \$3.25.)

Within the last decade and a half the subject of small business has gradually emerged as a new and recognizable segment of economic inquiry, with its own fields of research and its own niche in the structure of economic theory. This new study, prepared by Dr. Kaplan for the Committee on Economic Development, represents the most comprehensive and inclusive contribution yet made to the small but rapidly growing body of economic literature in the field. Taken in conjunction with Steindl's work on the place of small business in economic theory¹ and Weissman's work on the financial problems of small firms,² Dr. Kaplan's well-organized and clearly presented study should provide the reader with an adequate knowledge of most of the theoretical and practical problems in the field, the principal topics of research, the major points of controversy, and the bases for the development of a sound public policy.

Quite properly, Dr. Kaplan begins his work with an analysis of the various standards used in defining small business. He arrives at a composite definition in which the principal elements are "1 million for volume of business, \$500,000 for total assets, and 250 employees for personnel," with the type of firm consisting of a "single independent organization directly under the supervision of its owners who are also its managers—whether incorporated or not." Although to some this definition may seem to take in a lot of territory, it falls far short of Thurmond Arnold's highly pertinent definition of small business as any firm which is unable to maintain a lobbyist in Washington.

Dr. Kaplan then summarizes available statistical evidence on the position of small business in the various branches of the economy, on trends in the business population, on discontinuances and failures, on longevity and turnover, and related topics in the general field of business structure.

Moving from structural to functional characteristics, he next examines the highly important subject of the relationship of size to efficiency. Although here again he offers no new primary data, the conclusions which he derives

¹ Joseph Steindl, *Small and Big Business* (Oxford, Basil Blackwell, 1945).

² R. L. Weissman, *Small Business and Venture Capital* (New York, Harper, 1945).

from the existent information on unit costs and profits represent an excellent summary of the state of present knowledge. Thus his principal conclusions are: "(1) The differences in efficiency among the small enterprises themselves are more extreme than those between small and large firms. . . . (2) The middle size firms of an industry commonly make a better average showing on costs and earnings than do either the giants or the smallest members. (3) The over-all tendency is for unit costs to diminish as size increases until the big-business category is reached. But the very largest member of an industry does not usually show the lowest cost or the best profit rate on invested capital. In most cases a firm in the middle range makes the best showing, and frequently a small firm leads the industry in this respect."

The remainder of the book is devoted to the three types of corrective action most urgently needed by small business—management assistance, financial aid, and the preservation of competition. In regard to the first, Dr. Kaplan emphasizes the pervasive absence of management guidance for small business, which all too often is compounded by the reluctance of the small enterpriser to learn new methods and techniques. In addition to a needed expansion in private sources of management assistance, as in trade associations, industrial engineering, market-research firms, etc., Dr. Kaplan feels that "the Bureau of Standards should be authorized to serve small-business groups more aggressively with respect to information on technological developments," and that the Department of Commerce should act as a "clearing-house," gathering and disseminating technical information through the various organizations and agencies serving small business.

In regard to financial aid, Dr. Kaplan summarizes the various studies which have been made on this problem and comes to the inevitable conclusions that, by and large, small firms are unable to secure funds through the security markets; that even when the small company is able to use this avenue, the costs of flotation are all but prohibitive; that long-term credit, though on the increase, is still far from being generally available to small business; and that direct investment by individuals has tended to dry up, due largely to the high rates of taxation and to the progressive concentration of population in large cities, with the consequent weakening of personal ties and relationships. After surveying the various proposals which have been advanced to meet this problem, including community industrial development organizations, direct government loans, and loan insurance (the last being treated in a rather cursory and uncritical manner),³ Dr. Kaplan recommends the establishment of a network of capital banks under Federal Reserve Board supervision, with the commercial banks in each Federal Reserve district authorized to subscribe a small percentage of their capital and surplus in a district

³ Pp. 167-68. For a fuller presentation of a possible loan insurance program, see House Small Business Committee, 79th Cong., 1st sess., *Hearings*, Pt. 2, H.R. 64, *Financial Problems of Small Business*, 1945, pp. 997-1031; Smaller War Plants Corp., *18th Bimonthly Report to Congress, June 1945*, pp. 11-14; and House Agriculture Committee, Special Subcommittee on Cotton, 80th Cong., 1st sess. (Pace Committee), *Hearings*, 1947, pp. 586-87.

capital bank, which initially could grant credit and perhaps eventually purchase the stock of small firms. As a means of greatly expanding its ability to render financial aid, Dr. Kaplan suggests that each capital bank might be "put in a position to place its debentures or rediscount paper with the Federal Reserve Banks at rates low enough to permit a fair return on the expanded employment of its funds."

In his final chapter, "Competition—Means and Ends," Dr. Kaplan describes the effects on small wholesalers and small manufacturers of the forward expansion by large producers into the distribution field; cites the "introductory pricing" and other recently revealed discriminatory practices of the A. & P. as illustrative of those types of activities against which no small distributor can possibly compete; condemns the fair-trade laws and argues that small business in supporting them is actually working against its own best interests; denounces interstate trade barriers and similar legal restrictions to a free market; advocates a reform of the patent laws; and urges labor organizations to be flexible in dealing with small business and not to expect small competitive firms to be able to meet the same terms and conditions as can be granted by large firms enjoying a monopolistic position.

In the opinion of this reviewer, this well-rounded work has only one flaw, which however is a serious one, namely the comparative lack of attention given to the problem of economic concentration, a problem which certainly deserves somewhat more consideration in a discussion of the "place and problems" of small business. This criticism is based on the following observations:

1. In analyzing the position of small business, he relies principally on data relating to the *number of small firms*, rather than the *proportion* of activity or resources accounted for by small business. This use of data on numbers, which incidentally leads to some optimistic inferences concerning the position of small business that would not be supported by data on proportions, is particularly surprising in view of (a) Dr. Kaplan's own recognition of the great weakness of data on numbers, which are tremendously influenced by the turnover in one-man and other tiny establishments (*cf.* pp. 43, 56, 234), and (b) the existence and availability of a large body of statistical information on proportions which could have been used in the analysis.

2. In the one-and-a-third pages which he does devote to the topic, "Industrial Concentration," he fails to cite any of the available data on the level or trend of concentration, as measured on a corporate or company basis, confining his analysis to the "establishment" or plant data of the Census of Manufactures (pp. 38-39). Although most of the material that he does cite, which incidentally is limited to the period 1929-39, indicates a general increase in concentration, about half of this brief discussion is concerned with something which Dr. Kaplan describes as a "hopeful aspect," namely, a slight decline which took place in the relative share accounted for by the largest size group. This decrease, however, was probably due in large part to the decline in general economic activity, or more specifically to

the greater-than-average decreases which probably took place in the most highly concentrated fields—heavy goods, capital equipment, etc.

3. Dr. Kaplan makes a number of assertions which seem to imply that the proper place of small business should, or, at least, will be as an adjunct or “auxiliary,” rather than as a competitor, to big business. Thus, “It is more likely that small enterprise will develop as auxiliary to its larger competitors” (p. 52; *cf.* also, pp. 103, 235). In view of the conclusions which he has arrived at concerning the relationship of size to efficiency, such an observation necessarily implies that the dominance of big business and the “auxiliary” status of small business will be the result of non-efficiency factors, *e.g.*, greater economic power, resources, etc. Not only has Dr. Kaplan failed to spell out this logical conclusion of his argument, but he has also failed to exhibit any particular concern over such a state of affairs.

4. Although he recognizes the existence of the postwar merger movement, he quickly dismisses it as a factor of any importance, stating that the “phenomenon has not, however, reached the proportions of the decade following the First World War” (p. 234). This, of course, is a perfectly safe observation since it would be rather difficult for the merger movement to have achieved the same “proportions” in the three years following World War II that it attained in the “decade” following World War I. If Dr. Kaplan had compared the current merger movement to the first three years rather than to the “decade” following World War I, his statement would still have been true, though to a much lesser extent, since the average number of mergers in the period of intense activity immediately following World War I exceeded the number during the comparable three-year period following World War II by only about one-quarter. The real significance of the current movement, which Dr. Kaplan neglects to point out, is that the increase in concentration resulting therefrom is superimposed upon an already extremely high level of concentration which, itself, is, in large part, the product of earlier merger movements.

5. Finally, in discussing what direct remedies are needed to meet this problem of the concentration of economic power, Dr. Kaplan is, for the most part, rather vague, indulging in such broad generalities as a recommendation that the antitrust laws be “recast into a consistent body of legislation” (p. 245), or that the antitrust agencies should “keep the channels of competition open” and “keep a watchful eye on the potential squeeze that integrated big business can apply to smaller independent units” (p. 217). This leaves the reader in the dark as to his attitude on such specific issues as the need for legislation to arrest merger activity, the desirability of implementing an effective dissolution program, the necessity of breaking up financial and corporate inter-relationships that eliminate competition, and other specific measures designed to arrest the growing concentration of economic power and prevent the complete extinction of the subject of this book.

Aside, however, from his treatment of this crucial subject of economic concentration, there can be little doubt that Dr. Kaplan’s book represents

the best general work yet written on the subject of small business. It should definitely be included among the supplemental readings in all courses in the fields of industrial organization, public control of business, and business finance.

JOHN M. BLAIR

Washington, D.C.

Problems in Price Control: Stabilization Subsidies. Pt. I, *Stabilization Subsidies, 1942-46*, by SEYMOUR E. HARRIS, Pt. II, *Wartime Subsidies and Food Price Stabilization*, by PHILIP RITZ. Edited by PETER G. FRANCK. Hist. Reports on War Admin., Office of Price Administration, Gen. Pub. No. 10. (Washington: Supt. Docs. 1948. Pp. xii, 241. 45c.)

The economist who wishes to form a judgment on the effectiveness of wartime stabilization subsidies will not find a completely satisfactory answer in this volume, but if he is willing to read through a good deal of overlapping and somewhat repetitious material, he will acquire a reasonably adequate idea of the various subsidy programs and the reasons for their adoption. The volume, which is one of the general series of Historical Reports on War Administration, would probably have been more readable had it been entirely the work of one author. While Professor Harris deals chiefly with the non-food subsidies and Mr. Ritz with the crucial role of food subsidies in holding down the cost of living, both authors devote considerable space to somewhat similar analyses of the general role of subsidies in the price stabilization program.

On the whole, Part II is considerably more informative than Part I, for its chronological form of presentation results in a systematic account of the evolution of subsidies from the early days of the defense program through the final breakdown of price control in the autumn of 1946. The political as well as the economic factors which led to shifts in policy are brought into the discussion in a highly illuminating manner. Part I, on the other hand, devotes a number of chapters to a classification and description of the various types of subsidies but makes little attempt to trace their history through the later years of the war and the immediate postwar period.

Both authors seem completely agreed that the subsidies which took the form of incentive payments to encourage high-cost marginal production were a decided success. In these cases, it was easy for OPA to demonstrate that the savings to both consumers and the Treasury far exceeded the cost of the subsidy, with the result that this type of subsidy aroused virtually no opposition. Much the same conclusion can be drawn, apparently, with respect to a number of programs in which government agencies absorbed losses in order to protect domestic price ceilings from the impact of various types of uncontrollable cost increases, especially those involving increases in war-risk insurance rates, shipping costs, and foreign sellers' prices. For many commodities, imports represented only a fraction of the total supply,

and the subsidies prevented the higher cost of the imported portion of the supply from forcing a break-through in the domestic price ceiling.

With respect to subsidies which were paid "across-the-board" (*i.e.*, to all dealers at some stage of production or distribution) the case is much less clearcut, although both Professor Harris and Mr. Ritz attempt to show that the savings resulting from such subsidies exceeded the cost. The net effects of programs of this type are far more difficult to analyze, especially when one attempts to take into account the probable indirect effects of averted price increases. As Mr. Ritz points out, the estimates presented by OPA experts in justification of such subsidies failed to draw a clear distinction between net savings to the Treasury and to the general public. Nor was any account taken of the higher tax revenues which would have accrued to the Treasury if prices had been allowed to rise.

Actually, it is doubtful if the case for across-the-board subsidies could ever be fully presented in statistical terms. When the subsidy program was substantially expanded in the spring of 1943, the basic consideration, as both authors suggest (though not, I think, with sufficient emphasis), was the possibility that a serious break in the price line would lead to a succession of wage and price increases which in the end might become uncontrollable. In the absence of subsidies, the price line could not have been held in a number of important cases without discouraging production.

The last word on the subsidy problem will certainly not have been written until a careful study is made under unofficial auspices. While there is no attempt to "white-wash" OPA in the present volume, it is none the less clear that an official history of this kind needs to be supplemented by a study which can consider fully and frankly such matters as interagency conflicts and the influence of changes in top OPA personnel. Such a study would be especially valuable if a comparison could be made with British and Canadian experience.

MARGARET S. GORDON

Berkeley, California

The Marketing of Surplus War Property. By JAMES ALLEN COOK. (Washington: Public Affairs Press. 1948. Pp. ix, 211. \$3.25.)

This is the first detailed report on the disposition of World War II surpluses to be published.

Of the approximate \$27 billion of property declared surplus, by late 1948 probably less than one-tenth remains in inventory. The surplus property disposed of includes industrial plants, aircraft, merchant ships, and capital and consumer goods. Dr. Cook describes the different disposal problems of each group and the difficulties and complexities within each group with two purposes in mind: first, to determine whether the shortcomings of the disposal program were legislative or administrative; and second, to recommend revisions of the law and policies or procedures of the War Assets Administration so that the disposal of the remaining surpluses will be more rapid. Unfortunately, about two years have already elapsed since

the major part of the report was completed in early 1947. It is worth while noting, however, that several of the major recommendations made by the author, both legislative and administrative, have already been put into practice.

Dr. Cook points out that many of the industrial plants to be sold were large in size, or "scrambled," or of no apparent civilian use, or poorly located (for civilian purposes). In view of these obstacles, it is obvious that the disposal rate would not be too rapid. He is, however, optimistic about the future disposal rate, particularly if the Congress enacts a "stand-by" program.

According to Dr. Cook, the Administration in the disposal of industrial plants contributed little in achieving one of many major objectives laid down by Congress, namely, "to discourage monopolistic practices and to strengthen and preserve the competitive position of small business concerns. . . ." He states that the country's 250 largest corporations secured about 70 per cent of all plant disposals (measured in terms of original cost).

The position of the War Assets Administration, illustrated in the case of aluminum plants, was that large competitors had already entered the industry. These entries apparently have not resulted in the infusion of a competitive spirit in the aluminum industry. The Department of Justice recently instituted action in the Federal Court requiring the Aluminum Company of America to divest itself of some of its property since the disposal of war plants had not established competitive conditions in the industry.

In the analysis of this problem, Dr. Cook accepts the Administration's statements, first, that it had no alternative in the disposal of industrial plants since Congressional policy was not specific enough; second, that the Department of Justice had the responsibility of approving the disposal of plants worth \$1 million or over; and finally, that the plants were large and could not be broken down. He fails to evaluate the problems and policies with a view toward determining the reality of the problems and the adequacy of the policies.

It seems to the reviewer* that the Administration could have met, at least in part, the Congressional mandate. For example, the Geneva Steel plant was sold to U. S. Steel rather than a new group. Here was an opportunity to add a competitor to an industry. Although I have heard officials of the War Assets Administration point out that there were no other responsible bidders, it seems to me that the Administration could have followed a positive policy by seeking out and assisting new firms.

Dr. Cook is not satisfied with the rate of disposal of consumer and producer goods. Here he has described and examined excuses rather than reasons. The major obstacle, in his opinion, was the priority system. There is no doubt that disposals would have been more rapid without it. (But if procedures delay the achievement of democratic objectives, we do not discard the objectives!) In the opinion of the reviewer the planning of a "pipeline of dis-

*The reviewer was employed by the War Assets Administration during 1944-1947.

posals" could have been developed so that there would have been a continuous, high disposal rate. A second obstacle, according to Dr. Cook, was inadequate sales planning. This, it seems to me, was the more serious obstacle. The reviewer recalls that when sales planning was instituted on a national level a "pipeline of disposals" was developed so that the rate of disposals reached a maximum in mid-1946. Sales declined subsequently not because of the decentralization of sales planning to the regional offices but the inability of regional personnel—consisting chiefly of salesmen—to plan. Incidentally, one office appointed an economist to be in charge of sales and the results were excellent.

A third obstacle to prompt liquidation, the author states, was the multiplicity of Congressional objectives. As evidence, he cites an interview with officials of the Richmond regional office. This is a case of excuse rather than reason. This office had probably the worst inventory records of any. It did not sell property because it did not know what it had to sell.

Dr. Cook not only fails to recognize the importance of correct inventory records but makes contradictory statements about it. He states that "an examination of inventory procedures in regional offices has revealed that inventories have been maintained and used daily" (p. 137) and that "the War Assets Administration has adopted an inventory control system which, by and large, embodies sound working principles" (p. 138). On the other hand, Dr. Cook reports that "the overall inadequacy of property descriptions has contributed one of the most serious obstacles to efficient sales operations" (p. 141).

Another pair of contradictory statements reflects the conflict not only in the minds of the officials of the War Assets Administration, but also in the mind of Dr. Cook, with respect to the primary objective in the disposal of surplus property. On one hand, the author states that the priority system "tended to divert War Assets' selling staffs from their primary objective—prompt liquidation" (p. 66). Yet he says that "liquidation should be the means to an end rather than the end in itself" (p. 77).

This book, in the opinion of the reviewer, fails to bring out in sharp focus the *major* issues of surplus disposal. No penetrating analysis is offered, for example, of the role of the military in handling a civilian job (there is a passing reference on this point on page 127) or the importance of planning on a broad scale. Dr. Cook has made the serious mistake of relying for his information on Congressional hearings and reports, which reflect political partisanship on the part of Congress and include defenses of operations of W.A.A. A second source is W.A.A. statements on policies and procedures. On the basis of the reviewer's observations (and this opinion was prevalent) any relationship between such statements and *actual* policies and procedures was purely coincidental. A third source was interviews with W.A.A. officials. Here, too, there is room for skepticism as to the accuracy of information. Only careful, persistent, and intensive investigation can dig out the facts about any government activity on the scale of that under consideration.

JACOB J. KAUFMAN

The University of Buffalo

Public Utilities; Transportation; Communications

Electric Power and Government Policy. Factual findings by the Research Staff and the program by the Power Committee of the Twentieth Century Fund. (New York: Twentieth Century Fund. 1948. Pp. xx, 860. \$5.00.)

This book is devoted largely to the report of a competent research staff headed by Arthur R. Burns, the director, and Walter E. Caine, associate director. The research staff, each member of which presumably handled particular sections, consisted of Walter H. Beidatsch, Blanche Bernstein, Melvin G. de Chazeau, Hubert F. Havlik, C. Emery Troxel, Patricia Van Deraa, and William Vickrey. The project was designed to give an objective, factual picture of the electric power industry in its relation to government agencies. A preliminary summary of the main findings written by Edward Eyre Hunt was published by the Fund in 1944 under the title of *The Power Industry and the Public Interest*.

The factual content of this book supplements the theoretical and legal approach of recent and excellent public utility books. Interesting and significant information overflows into voluminous footnotes. If the book were nothing more than a handbook of statistics, its value would be considerably diminished by the fact that the material brought down only to 1940 is now outdated. The value of the book, however, springs more from the strong flavor of regulatory experience that permeates the discussion of every controversial problem.

An attempt is made to analyze some ten regulatory problems. The material is presented with caution and qualifications that would befit a study sponsored by a committee including Professor Bonbright, a farm leader, a regulatory lawyer and three power company executives. (The committee: J. Henry Scattergood, chairman, James C. Bonbright, LaRue Brown, Samuel Ferguson, Murray D. Lincoln, and Paul A. Schoellkopf.) Although the conclusions might conceivably represent a common meeting ground of the minds of the staff, they are so cautious and well guarded that it can be doubted whether many of them represent the strong beliefs of even one of the staff members. In short, the qualifications become the essence of the findings and thus it becomes difficult to summarize the contents.

The discussion of the legal framework of regulation is possibly best summed up by the staff's hope that the Supreme Court will now be disposed to give greater weight to commissions' findings of fact. It is worthy to note that this book is not unduly devoted to exorcising "dat old Debbil," *Smyth v. Ames*. For this, readers should be profoundly grateful. The study recognizes the importance of earnings-price ratios as one measure of a fair rate of return. The virtual failure of all commissions until recently and the complete failure of academic writers to consider this approach is almost inexplicable. It is a significant commentary on the solidity of this book to point out that a suggestion that commissions establish normal or average standards of costs of service to which utility companies should be held is relegated to a footnote (p. 105).

Presumably the appraisal of local, state and federal regulation did not yield results which could be stated in categorical fashion. On the basis of statistical studies, the staff reported that state-regulated utilities earned larger profits but had better rate records and lower expenses than locally regulated utilities. The report seems to doubt the efficacy of municipal competition or the threat of competition (pp. 243-5), although tables in the appendix seem to indicate otherwise where there is actual competition.

Now that the attempt has been made, it is to be doubted if much can be gained from a statistical comparison of rates or profits in some states with commission regulation as against selected states with local regulation. What is to be proved by lumping together rate or profit figures for California, Connecticut, Massachusetts, Michigan, New Jersey, New York and Wisconsin to determine the results of commission regulation as compared with local regulation, measured by results obtained in Florida, Mississippi, Minnesota and Texas? The substance of regulation is lost in statistics. One can well ask as to what extent results were influenced by peculiar operating conditions or financial histories, by special qualities of management, by public ownership movements, or political conditions. The effectiveness of commissions ebbs and flows; high tide and low water may both be reached within a few years; generalizations must be suspect.

So many reasons for variations are suggested that the report itself concludes that definitive conclusions are impossible. It would seem to have been to better purpose if the writers had gone further into another approach which was tried on a small scale—that of comparing various pairs of states. If the reasons for all variations could have been traced back to their origin, readers might well have more confidence in the conclusions. Such a task, however, was obviously beyond the time resources of the staff. Apparently much of the valuable information in the report was obtained from grass roots sources—interviews with regulatory officials—including among others those of California, Massachusetts, New York and Wisconsin, states generally recognized as being leaders in regulation.

The section on the financial organization of private systems is almost a text in corporation finance in itself. The discussion of problems of security regulation is particularly illuminating since all too often such discussions are confined to the more or less lifeless enumeration of rules and principles. The policy of the Securities and Exchange Commission emerges as one that has continuously evolved as experience accumulated. The treatment does remain, however, a treatment of problems rather than a recommendation of policy. Some objective standards such as the degree of overcapitalization, the proportion of debt, dividend arrearages and security flotations are considered. Commission regulation of security issues seems to have had some slight effect in reducing write-ups and dividend arrearages. The staff report concludes that state regulation of security issues has not necessarily failed but rather has not been tried (p. 275). Here again earnings-price ratios or yields might have been used as a means of evaluation.

The discussion of the problem of market area size may be summarized

with the statement that the report notes that state commissions have exercised little control over territorial markets, while the policies of both Congress and the Securities and Exchange Commission over a wider front lack clarity and consistency as well as detail. The treatment is critical and descriptive, but there are no concrete recommendations of policy.

The study contains carefully qualified conclusions on municipal ownership presented against a thorough-going discussion of the many pitfalls encountered in making valid comparisons. It is pointed out (p. 435) that the major economies of municipal ownership arise from lower capital costs, more conservative valuation of assets and lower operating expenses. It is believed, with some evidence to the contrary, that tax advantages are offset by contributions to municipalities. These conclusions are based upon the many studies of the problem that have appeared in the past rather than upon new investigations. The report might have been strengthened by a thorough, objective analysis of the Ontario Hydro Commission, something that is sadly needed. The study of rural electrification may be summarized by the guarded conclusions of the report that "This survey has indicated little direct federal subsidy to rural cooperatives. . . . It may or may not be desirable to subsidize rural electrification, either for its own sake or, in times of depression, to contribute toward recovery" (p. 479).

The treatment of the subject of municipal ownership fails, along with every other treatment with which the writer is familiar, in that only after long study can even an expert reader evaluate the significance of isolated blocks of statistics treating various aspects of the problem. Why not utilize the device of hypothetical models of private and publicly owned utilities, incurring representative expenses with representative rates applied to similar rate groups? The specific effect of taxes, operating expenses, etc. could be traced down to their final incidence upon rates. The reader would be given quantitative answers to many of his questions without further research while partisans would have a definite starting point from which to begin their wrangling. The assumptions would of necessity have to be made with care but this staff should have the competence to make them.

The study affords us no definitive answer to the major question of public policy towards the giant multiple-purpose projects. The yardstick idea is firmly eschewed, the lack of consistent policy between the projects is decried, and Congress is called upon to lay down at least the major outlines of power policy. But we are left in the dark as to what they should be. It is taken for granted that indirect competition between private and public ownership should and will continue, but no direct attempt is made to grapple with the problems raised by the obviously cumulative growth of public ownership that we find today. The importance of the projects as a means of business cycle control is recognized.

The study concludes with a discussion of the objectives of a national power system, the power committee's report and recommendations and a statistical appendix. The committee's report is even more cautious than the main body of the report. Professor Bonbright, with hard-headed perversity, takes

frequent exception to the conclusions. In one instance dissents are registered by both Bonbright and Samuel Ferguson (in respect to divorcing gas and electric properties). Needless to say, they are not in agreement.

Although the book is notably free from excursions into the fields of high theory, the report and recommendations take notice of the arguments against taxing a decreasing cost industry. The efficacy of tax reductions in the light of ineffective regulation is questioned by Professor Bonbright (p. 746). Few can disagree with the stated objectives of (1) a workable system of regulation and (2) the proper coordination of government and private ownership (p. 748). We may be approaching the former, but the reviewer agrees with the report in that we get about the kind of regulation we deserve (p. 754). To achieve the second objective the report tentatively suggests a type of power organization similar to the British Grid and the Ontario Hydro. Much is to be said for the proposal although it is difficult to see how coordination is to be obtained as long as governmental ownership remains as such a dynamic institution. There is a plea that negotiational rate making be brought out into the public view (p. 759).

There are no unqualified answers to controversial questions. This is probably all to the good. Instead one finds some cautious recommendations and a thoroughgoing discussion of the qualifying factors. It is this wealth of minutia pertaining to the industry and to regulation that makes this book a valuable one to the student or to framers of policy. No one contemplating further research in the field would be justified in neglecting a preliminary reading of this book.

E. W. CLEMENS

University of Maryland

The Regulation of Railroad Abandonments. By CHARLES R. CHERINGTON. (Cambridge: Harvard Univ. Press. 1948. Pp. x, 277. \$4.00.)

In undertaking this study, the author had in mind two objectives. The first was that of a detailed survey of the policies of the Interstate Commerce Commission in respect to the problem of railroad abandonment, over which the Commission was given control in 1920. The second was the development from this experience of any general conclusions which it might offer in respect to techniques of administrative regulation.

Two sections of the book contain excellent discussions of complicated problems dealing respectively, with judicial review and with actual Commission policy in sanctioning or denying abandonments. Of equal quality but of lesser importance are the discussions of the legislative background of the abandonment clause and Commission procedure in handling the cases.

The critique of the Commission policies, and the treatment of the implications which the Commission action offers for administrative regulation in general are much less satisfactory than the descriptive material. The ultimate conclusion—that a Bureau of Coordination and Research should be established within the Commission (and similar bureaus in other regulatory agencies) for purposes of long-range planning and evaluation of the effects

of particular Commission actions in terms of the plans developed—is one with which there can be substantial agreement. And, in a sense, the failure of the Commission to enunciate a clear policy in respect to abandonment may be advanced as justification for such an agency. But I am not at all sure that the actual decisions of the Commission would have been very different had long-range considerations been taken into account, as the author maintains. Professor Cherington is very critical of the particularist approach of the Commission—that is, of the tendency to deal with each case as a separate problem, with an attempt to balance conflicting considerations involved in the particular case—and condemns the Commission for failing to adopt a “planned coherent regulatory strategy.” He is likewise critical of the Commission for being unnecessarily restrictive in preventing abandonments which the carriers would like to make. But his criticism of the Commission on these bases is greatly weakened by the failure to advance, or even to indicate by implication, what “planned strategy” would involve, or what general principle the Commission should have followed in regard to abandonment.

The establishment and utilization of such a principle is not an easy task. The old view, one still accepted by many, that any line on which costs are not covered (granted a reasonable basis for allocating costs and revenue to a particular line) should be abandoned has been seriously questioned by the marginal approach to utility operation and pricing. There may be, and probably are, cases in which the losses to the shippers from abandonment will exceed the losses on the line from continued operation; retention of the lines is justified and practicable (under what amounts to a type of recapture policy) in cases in which the road as a whole is earning more than a necessary return. And essentially—without stating the principle in so many words—the Commission has been attempting to weigh these conflicting considerations of carrier and shipper losses. It is doubtful if a more precise statement of principle would be of much assistance; there is no possibility of calculating exactly the loss to the community from abandonment, or, for that matter, the exact loss from operation of the particular branch. The best that can be hoped for is a rough weighing of the two considerations. The fact that a railroad can never be sure in advance whether the Commission will allow a particular abandonment is an inevitable product of the difficult nature of the problem, rather than a product of the Commission's past policy, as the author argues. In general, Professor Cherington has not established a strong case that Commission policies in abandonment cases demonstrate a fundamental weakness in the structure and operation of the Commission.

The section dealing with the causes of abandonment is not entirely adequate. The author's listing of the causes of traffic declines is an improvement over previous attempts, but stops short of a fundamental problem, the answer to which is not always entirely obvious: exactly why, and under what conditions will a traffic decline cause losses and result in abandonment? Further attention is needed to the question of the carriers' own policies in

regard to seeking abandonment. One legal question which might have been raised is that of the relative powers of the Commission and the federal courts in the case of abandonment of bankrupt lines, an issue which arose in the *Salt Lake and Utah* case and is likely to arise in the future in others.

This book represents a worthwhile contribution to the field of study of administrative regulation, one whose usefulness is enhanced by the excellent style of writing. But it is by no means a complete study of the railroad abandonment problem, from the standpoint of economic welfare considerations involved. It should be pointed out that the author's primary interest is in the field of political science, not economics. But there remains the fact that the author has undertaken to criticize the Commission's policies upon the basis of economic criteria without making clear what the latter are.

JOHN F. DUE

University of Illinois

Land Economics; Agricultural Economics; Economic Geography

Road to Survival. By WILLIAM VOGT. (New York: William Sloane Associates. 1948. Pp. xvi, 335. \$4.00.)

Our Plundered Planet. By FAIRFIELD OSBORN. (Boston: Little Brown. 1948. Pp. xiv, 217. \$2.50.)

These two books bring vividly to the attention of hundreds of thousands of readers significant trends and problems regarding the nation's and world's natural resources. The books come on a wave of public interest in conservation and rebuilding of our diminishing resources. In part they have made the wave. Each has been selected by a popular book club.

The tremendously accelerated wartime drain on world resources followed by the dramatic presentation of the economic reconstruction needs of the western European democracies and our own role in providing aid have sharpened our awareness of the resources problem. Man's ultimate dependence on his environment of soil, water, and plant and animal life for his daily living and future well-being is clearly depicted by both Osborn and Vogt. Not since the heyday of Theodore Roosevelt and Gifford Pinchot have these issues been so much in the public eye. Frequently these two books have been referred to as "scare" books. What they point out should not scare us. Rather it should sting us into more vigorous conservation efforts. The authors have performed a public service in focusing public attention on the need for conservation.

Neither Vogt nor Osborn is primarily an economist or, indeed a social scientist of any kind. A prominent ornithologist, Mr. Vogt is now chief of the Conservation Section of the Pan-American Union in which position he has had broad experience in studying population and resources problems in various Latin American countries. Mr. Osborn is president of the New York Zoological Society. Of the two books, Osborn's is the smoother, more balanced, and less likely to arouse violent emotional reactions for or against. Vogt's book is uneven, written at white heat, and full of fight. It contains

sweeping scientific, cultural, ethical, and economic generalizations and predictions, sometimes without satisfactory backing. Fortified with great quantities of notes, observations, and impressions, Vogt has lunged into his subject matter with both arms swinging. An economist or scientist could easily be unfair in appraising this book.

The main propositions of each book are similar. Following Vogt's more extreme presentation, the whole business may be summed up in the equation $c = b : e$. The carrying capacity (c) of a piece of land (or a nation or the world) at any time varies directly with its biotic potential (b) and indirectly with the environmental resistance (e). An improvement in land use such as better crop rotation or the application of needed fertilizer may increase crop yield and hence the biotic potential and carrying capacity. Soil erosion or leaching will increase environmental resistance, reduce the biotic potential, and thus lower carrying capacity. The elements in this relationship change, but for the impending future, Vogt argues, we may expect e to increase, b to decrease, and c to go down and down. Coupled with this, Vogt sees a century and more of increasing population in most countries. The rising population curve will cross the falling carrying capacity curve, leaving mankind to gloom and misery everywhere.

The situation may, however, be rescued by strenuous, intelligent, worldwide action on two fronts. We must conserve and build up our soil and we must stop having so many babies. Both Vogt and Osborn agree upon the need for resources conservation and development. Vogt goes far beyond Osborn in calling for a reduction in population. Vogt would withhold United States aid to Greece and China until those countries take actions to check births. In his opinion, one hundred million Americans would be about right; that is, would be the optimum population for a sustainable ecological balance in nature. One observer interpreted Vogt as saying, "Forty-five million Americans, drop dead!"

The form of the two books is similar. First is a series of chapters developing the background and stating the main propositions. Following are chapters dealing with the resources trends and critical problems in the different continents and countries. The promising as well as the inadequate efforts toward conservation are discussed.

Since the appearance of these books, scientists of many stripes have stepped forth to condemn them. Many soil scientists say that the term "natural balance" is meaningless apart from man's own cultural achievements in soil science, engineering, and economics. They maintain man's efficiency in food production and distribution is probably still accelerating. Enough tillable but at present unused land remains in the tropics and other areas to produce food for an adequate diet, as determined by the United Nations Food and Agriculture Organization, for the whole world by 1960. In addition, the biotic potential of various types of soil may increase greatly as knowledge and practice improve.

Population experts point to the fact that in the more advanced industrial areas net reproduction rates have decreased, in many instances below the

rate required for replacement. Motivations and techniques for limiting the size of families may be expected to become increasingly important. Men do not obey rigid laws of increase like so many fruit flies. World population may increase for another century or so, and then hold steady or even decrease.

Of the two authors, Vogt especially has little use for economists, unless they are Physiocrats. "Purchasing power goes back fundamentally to natural resources—especially the land—and no amount of symbolical juggling can help us to escape that hard fact" (p. 78). For Vogt the source of wealth is land, especially wheat land. Industrialization, notwithstanding the remarkable increase in *per capita* real income that has come in its wake, is presented as a "fallacy."

In another purple passage Vogt writes: "One of the chief causes of our ecological imbalance is our economic thinking. We identify the symbolic dollar with real wealth. . . . We extract oil, iron ore, and fine timber, and canvasbacks, and call it production . . ." (p. 146). He then calls for subordination of the "money evaluation of the exploitative lumberman, farmer, stockman, trapper, and industrialist . . . to a biophysical evaluation." At other points in the book, the free enterprise and profit system is condemned in harshest terms. Economic thinking is presented as the narrowest kind of "quick profits and the devil take the hindmost" doctrine.

Osborn is more temperate. Having in mind the continuing attack of the cattle and sheep interests on the federal forests, parks, and grazing lands in the West, he concludes ". . . the profit motive, if carried to the extreme, has one certain result—the ultimate death of the land" (p. 183). Osborn, however, does not make any blanket condemnation of the free enterprise system.

The important element of truth in Vogt's diatribe is that more economists should take the long view, giving greater weight to future consequences of present actions. The need for living with nature both now and in future generations should enter the value scales of the economist as well as of the farmer, stockman, fisherman, and industrialist. There is, of course, nothing in economic theory to exclude such considerations. Economic theory as such does not require that the future be discounted at any specified rate. That other scientists, and possibly the general public as well, do not realize this points to a shortcoming of the economics profession in the matter of public information which cannot be dodged.

It must be admitted also that there is need for a further working of general economic theory to cover more adequately the field of resources conservation and development. What seems to be required is not a new structure but rather an extension and adaptation of the present structure to give the additional material more relevance. Production theory as taught in most economics courses, for instance, is focused on the business firm, usually a manufacturing firm, which purchases materials and hires labor in order to turn out a product. Economists should give more attention to the national production which would result from better land and water use and sustained yield forestry. Such programs also require an economizing of scarce re-

sources, but in terms of social as well as firm and individual considerations.

Perhaps one reason why conservation policies sometimes appear confused and contradictory and do not have effective public support is the failure so far to relate conservation economics broadly to economic theory. More than this, minerals conservation, land conservation, and water conservation are not related to one another closely enough. The division is especially sharp between the conservation of exhaustible and inexhaustible resources. Perhaps the greatest contribution the economist can now make is to bring these different subjects in out of the rain and put them securely under the one tent of economic theory.

It cannot be denied that these two books do point to fundamental dangers and needs frequently neglected or underestimated. The need for better conservation of natural resources is so widespread and so urgent that an appeal to emotion is desirable. Otherwise, we may be both too little and too late with strong actions for the protection and improvement of our resources base. Professional economists should keep this in mind when they present their criticisms of the case made by such writers as Osborn and Vogt.

JOSEPH L. FISHER

Washington, D.C.

Introduction to Agricultural Prices. By WARREN C. WAITE and HARRY C. TRELOCAN. (Minneapolis: Burgess Publishing Co. 1948. Pp. iii, 227. \$4.00.)

This text is primarily concerned with price variations that are important for entrepreneurial decisions in agricultural production and marketing. It is organized by economic concepts rather than by commodities (but 20 index entries can be found under "wheat"). However, the authors undertake no rigorous logical development of theory. Rather, they assemble a selection of practical analytical tools and show the student how to use them for understanding and dealing with marketing problems.

After a review of the nature of money and prices, the book discusses demand, supply, and competitive and monopolistic price determination. There follows an extensive treatment of market organization and structure and price-making processes, of transfer costs and other locational influences, of seasonal variation, and of quality variation. A substantial chapter is included on futures trading, and one on prices of the factors of agricultural production.

Some main statistical techniques are brought together in a later chapter of the book and in appendices. Here, again, a kit of tools is assembled with practical instruction in their use rather than a rigorous mathematical development.

Two things in the book deserve special commendation. One is the extensive use of tabular and graphic materials from actual research studies. Scarcely a page lacks illustration of this type, much of it reflecting considerable work by the authors in adapting materials to the textual analysis. The student

receives both a wide sampling of available source materials and a practical experience in their interpretation and use.

Second is the emphasis upon evaluation rather than mere description. The book concludes with a chapter appraising our wartime experience with price control and another analyzing farm price-support programs, past and proposed. But throughout the book, whether discussing cyclical changes, monopolistic practices, cooperatives, government marketing programs, or futures trading, the authors call the student's attention to consequences for different groups in society, and to over-all social implications. They take time to refute the doctrine that changes in farm income produce seven-fold changes in national income. They risk a reasoned forecast of a short-run downward adjustment of agricultural prices relative to nonagricultural, followed by a secular decline—or at best a stable relationship—over the next quarter century. Regardless of whether one agrees with the author's opinions, this reviewer believes that it is good for students to have issues important for policy brought out for class discussion.

The book fills an important need in the current shortage of analytical, as versus merely descriptive, texts on agricultural marketing. There is merit in its practical approach. The limitations of that approach might be partly offset by adding references to sources of more rigorous development of the analytical concepts used, both economic and statistical.

HERMAN M. SOUTHWORTH

Washington, D.C.

Labor

Contemporary Unionism in the United States. By CLYDE E. DANKERT. (New York: Prentice-Hall, 1948. Pp. xv, 521. \$5.00.)

The above volume is a useful handbook on labor unions. In twenty-seven chapters, the author has discussed every aspect of unionism from its history to its effect on the general welfare. Most of the time his material is limited to describing known facts. Occasionally his observations are not too meaningful. For example, in a footnote we are told that since workers in the Soviet Union supply all capital, they do "not have to worry about their 'share' since presumably, everything goes to them anyway." Do they or do they not have to worry, and why? Does everything go to them, and what is everything? He then draws the conclusion that trade unions of the type to which we are accustomed are not needed. This, of course, means that there are no problems of income allocation in the Soviet Union, and that there are not even any bases for complaints. Actually, capital in the Soviet Union is supplied by the community by not consuming its total income in a period. Has the worker no interest in deciding on the amounts to be consumed and saved? If reports from the Soviet Union can be believed, the Russians need unions like our own very badly. If our type of unions existed, there might be a few more consumption goods available. All the author has really said is that a totalitarian regime has no place for free unions.

The discussion of "voluntarism" leaves out the influence of government policy upon this attitude. Between the 1880's and the early 1930's, government intervention would have meant mostly stronger government action against labor. Nor is the A. F. of L.'s change of view on this point dealt with adequately. This discussion illustrates a serious defect in this volume, the failure to pursue a topic adequately. While it is true the "Federation realizes now that gains that are extremely valuable to labor may be achieved not only through collective bargaining but also by legislation," we ought to be given some explanation for the change in attitude. What is "a rigid adherence to the Gompers philosophy of voluntarism" in politics? Actually, there is slight difference except as to scale of activity between Gompers' and the present policy.

In discussing the government of the A. F. of L., Professor Dankert agrees that "unity in the executive council is not as real today as it was under the regime of Gompers." This may be true, but it may be well to point out also that the A. F. of L. is more united today than it was in Gompers' day. No appreciable socialist faction exists today, as it did from the beginning of the A. F. of L. to the 1920's. The discussion of the attitude of the A. F. of L. toward joining the World Federation of Trade Unions leaves much to be desired, and the impression is given that the objection is primarily based upon the A. F. of L.'s espousal of "free enterprise." But the A. F. of L. has more substantial objections. English unions are also opposed to "free enterprise," and the A. F. of L. maintains cordial relations with them. English unions can, however, adopt any policy they choose, whether it be favored or opposed by the government. The Russians cannot. Why meet with the Russian unions, they cannot act independently.

This volume has many merits, and it is a usable text in courses on trade unionism. Its greatest shortcoming is the failure to carry through in discussion of issues. Many times the points are given for and against a particular view, but the question is not examined beyond the point of stating the issues. It is frequently more desirable to err, especially if the error is suggestive, than to allow a question to remain "up in the air." Consequently, a teacher will have to be ever watchful to supplement the material. Labor problems of various kinds can be illuminated by different types of analysis, but some explanation beyond stating that groups prefer different alternatives is essential if a volume is to be more than a mere handbook.

PHILIP TAFT

Brown University

Industry-wide Bargaining. By LEO WOLMAN. (Irvington-on-Hudson, N.Y.: The Foundation for Economic Education. 1948. Pp. 63.)

In this pamphlet a member of the National Bureau of Economic Research undertakes to prove that industry-wide bargaining is dangerous. Though the best examples of such bargaining are in coal mining and on the railroads, he is sound in adding industries like steel and automobiles where the contracts are fairly uniform. Regional examples are also given.

The indictment is based on the premises that national unions generally have strong centralized power over both locals and individual members (pp. 18, 52), that national unions are essentially monopolistic (p. 25 ff.), and that their specific goal is uniformity (p. 9) that will remove labor conditions from the field of competition (p. 21). From these premises the author concludes that agreements reached in industry-wide bargaining do stop such competition both within an industry and among industries (p. 22) and even "will amount in time to taking business out of competition" (p. 33).

To this, he adds criticisms of the increased costs (railroads and coal, pp. 36-38), of the general inflexibility of labor costs so that management cannot adjust to changing conditions (p. 38), and of the practice of employers' associations joining with unions "in fixing costs and prices" (p. 42).

Nowhere is there a suggestion of possible advantages from industry-wide bargaining. The balance of the pamphlet cites examples of the above arguments, some distorted labor history, apologies that have been made for union "monopoly," and of course a remedy. This remedy is mainly to apply the antitrust laws rigidly to labor organizations (p. 62), though strengthening of independent ("company") unions is expected to help (pp. 47-48, 61).

In such a study one may separately examine both premises and reasoning, and also extraneous arguments. It may, for instance, be questioned whether national unions *generally* have the power imputed to them. On the other hand, there seems nothing to gain in quibbling over an exact definition of "monopoly" as applied to labor organizations (unless it is used for derogatory effect), though we may ask whether labor monopolies actually "overshadow any private business monopolies" (p. 33).

That industry-wide bargaining does largely remove labor conditions from competition within an industry may be granted. But only where a single union is powerful in related industries is it effective between industries. For the immediate future it appears unlikely that even within either of the great federations there will be enough collusion among unions to achieve this end. No evidence is offered that business will be taken out of competition (even regionally), so one can merely accept or disagree with the statement, not with the absent reasoning.

The added criticisms are also questionable. Has it been only, or even mainly, the labor costs of railroads and coal mining that have caused branch lines to cease operating and coal consumers to switch to other fuels? Accepting a relationship, other items may also be admitted. Though on page 54 the author states that "no satisfactory evidence is at hand" to show that restriction of output is limited to craft unions, he himself adduces none to show that the union rules with "the most costly effects" are these restrictions. Nor is there evidence for his statement on the opposite page that before 1935 unorganized employees prevented these restrictions from being effective. (Surely Mathewson's *Restriction of Output Among Unorganized Workers* has shown the contrary.)

The inflexibility (except upward) of labor costs does indeed merit serious consideration. If the economy cannot or will not be stabilized, management needs to be able to make an adjustment in costs. But it has yet to be shown

why the burden of this adjustment should be placed mainly on labor. The estimate (p. 31) that wages and salaries amount to almost 80 per cent of the national income does not seem born out by government statistics, nor does it seem relevant to the problems of a firm that can adjust only its own labor costs, not those included in the prices it pays for raw materials and capital goods.

No doubt there are many undiscovered and unprosecuted cases of employers (and employers' associations) fixing prices in collusion with unions; no doubt the possibility is ever present. But that it is yet a common practice is dubious.

History is most useful when it is not distorted. In consideration of the way company unions flocked to join the AFL unions prior to 1935 when the NLRB started aiding the latter, should one agree that company unions were a real barrier to other unions (pp. 47-48)? Is it wholly correct to state that since 1914 unions have been immune to the antitrust laws (p. 62)? Should we also agree that the antitrust laws have so far prevented monopolies other than labor (as the author implies on the same page)?

Perhaps the pot has no right to call the kettle black. Perhaps it is irrelevant that business policies in large firms are no more decided democratically by stockholders than union policies are by union members—usually less. Yet a recognition of this source of difficulties in labor relations might help the reader. Unions feel they must be large to take on large employers; then they are too large for small employers. To be fair to both sides, since an effective prohibition of industry-wide bargaining can be achieved only by reducing the size of unions, the employers too must be curtailed. Are we willing to do so?

And is the uniformity of working conditions so intolerable an evil? Classical economics would seem to allow standardization in a stable economy. Under changing conditions such forced standardization would hasten the natural tendency and more quickly slough off sub-marginal producers. Has the growth of uniformly improved conditions unstabilized the coal industry compared with the 'twenties and early 'thirties? Is organized labor more restrictive than the vested interests of business? Do unions affect prices more than the imperfections of competition under oligopoly? In so one-sided a discussion as Wolman's, we are not likely to find an answer.

H. FABIAN UNDERHILL

Indiana University

Wages. By MAURICE DOBB. (London: Nisbet & Co., Ltd. New ed. 1946. Pp. ix, 222. 6 s.)

In this revision, the central chapters on "Theories of Wages" and "Wages and Bargaining-Power" have been altered considerably and the other chapters have been brought up to date.

The book is well written, the treatment is balanced, and the conclusions are sensible. The discussion of methods of wage payment is especially clear and acute.

The author's position with respect to wage theory may be characterized as a healthy scepticism of traditional theories without too much to offer in

their place. As a realist, he repeatedly points out that relationships between wages and other economic variables are much more complex than was formerly supposed. Influenced by Keynesian developments, doubts are expressed concerning "the simple notion of some kind of elastic demand-schedule for labour." With respect to wage differentials between occupations, Mr. Dobb finds that actual differences are so much in conflict with the principle of "equality of net advantages" as "to incline one to think that it cannot be an explanation at all of the major differences of wages in our present wage-system."

A "handbook" cannot be criticized for failing to be a learned and complete treatise. This book does accomplish the purposes of the author. Its most noticeable weaknesses are in areas that have received considerable attention in this country during the postwar period, namely, geographical differentials, the influence of unions on wages, the issue of "labor monopoly," the economics of minimum wages, and the question of a "national wages policy." The issue of "labor monopoly," for example, is not even considered although employer monopoly is, and no systematic treatment is given to the influence of unions on wage structures and wage levels or the economic justification for minimum wage legislation.

An adequate theory of wages must stem from an understanding of wage and employment practices in the absence of unions. An analysis of non-union conditions must provide the sound economic support for labor-standards legislation. Mr. Dobb fails to contribute to such understanding and support when he refers repeatedly to "the labour market" (without indicating what kind of a "market" he conceives it to be), and to "the 'normal' competitive wage." Studies of employment practices and wage structures and policies under non-union conditions show such notions to be misleading and unrealistic. The notion of an existing "competitive wage" is certainly chimerical, yet some American economists still seek to define labor monopoly in terms of a "competitive level of wages" and to classify individual wage rates or wage increases as either "competitive" or "monopolistic." Why let facts spoil a beautiful theory?

In the last chapter, the question of "some sort of centrally co-ordinated wage-policy, worked out between the Government and the trade unions at a high level" is discussed briefly but without shedding any new light on the matter. It is to be hoped that experience then available, will permit the author to expand on this subject in the next revision. The extent to which the spread of collective bargaining and the political compulsions in national unions will give our economy an inflationary bias during the next decades is a problem that needs careful analysis. Any solutions that England can develop to the conflict between national policy-making or planning and free trade unionism with autonomous unions should be helpful to us in working through the wage-price difficulties that exist under free collective bargaining in a full employment economy.

RICHARD A. LESTER

Princeton University

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NOTES

NOMINATION OF OFFICERS

The nomination of officers of the AMERICAN ECONOMIC ASSOCIATION for the year 1950 having been completed by the electoral body, the Executive Committee decided that the names of nominees should be made public at once, instead of being kept secret until the ballots were distributed, as heretofore.

The nominations were as follows:

For President: Frank H. Knight

For Vice Presidents: Edward S. Mason, Clair Wilcox, Edwin E. Witte, Arynness Joy Wickens.

For Executive Committee: Vincent W. Bladen, Lester V. Chandler, Robert A. Gordon, William J. Nicholls.

Two vice presidents and two members of the Executive Committee will be chosen by ballot.

OFFICERS OF ALLIED SOCIAL SCIENCE ASSOCIATIONS

The Allied Social Science Associations are being served by the following officers during the present year:

American Accounting Association: R. L. Dixon, University of Michigan, Ann Arbor, Michigan, president; Clete Chizek, University of Chicago, Chicago 37, Illinois, secretary-treasurer.

American Association of University Teachers in Insurance: J. Anderson Fitzgerald, College of Business Administration, University of Texas, Austin, Texas, president; J. Edward Hedges, School of Business, Indiana University, Bloomington, Indiana, secretary-treasurer.

American Farm Economic Association: Oris V. Wells, Bureau of Agricultural Economics, Washington 25, D.C., president; L. H. Simerl, 305 Mumford Hall, University of Illinois, Urbana, Illinois, secretary-treasurer.

American Finance Association: Neil H. Jacoby, University of California, Los Angeles, California, president; Edward E. Edwards, Indiana University, School of Business, Bloomington, Indiana, secretary-treasurer.

American Marketing Association: Harvey W. Huegy, University of Illinois, Urbana, Illinois, president; George H. Brown, University of Chicago, Chicago 37, Illinois, secretary.

American Sociological Society: Talcott Parsons, Harvard University, Cambridge, Massachusetts, president; Irene B. Taeuber, University of Maryland, College Park, Maryland, secretary-treasurer.

American Statistical Association: Simon Kuznets, 7301 Mountain Ave., Melrose Park, Philadelphia, Pennsylvania, president; Merrill M. Flood, 1603 K St., N.W., Washington 6, D.C., secretary-treasurer.

Econometric Society: Ragnar Frisch, University of Norway, Oslo, Norway, president; William B. Simpson, University of Chicago, Chicago 37, Illinois, secretary.

Industrial Relations Research Association: Sumner H. Slichter, 229 Littauer Center, Harvard University, Cambridge 38, Massachusetts, president; William H. McPherson, Institute of Labor and Industrial Relations, University of Illinois, Champaign, Illinois, secretary-treasurer.

Institute of Mathematical Statistics: J. Neyman, University of California, president; Paul S. Dwyer, University of Michigan, Ann Arbor, Michigan, secretary-treasurer.

RESEARCH IN ECONOMIC HISTORY

The Committee on Research in Economic History sponsored by the Social Science Research Council, has found an opportunity for the extension of work in its chosen field of the relation of government to American economic development in the explorations being conducted by Professor Carter Goodrich of Columbia University with collaboration from a group of graduate students at that institution. To assist Professor Goodrich in the stimulation of these studies, the Committee has made a grant to him which will permit him to aid financially the young men who are making their investigations under his general direction. The graduate students whom he has selected for inclusion within his group are Carter H. Golembe, Benjamin J. Klebaner, Nathan Miller, and Harvey H. Segal. These men will be designated Resident Fellows in American Economic History at Columbia. Mr. H. Jerome Cranmer of this same group has been given a grant-in-aid.

The Committee has also expressed approval of the efforts being made in an exploration of the area of entrepreneurial history, which has been going forward in 1948-49 at Harvard. To aid this Research Center in Entrepreneurial History, it has voted financial aid for 1949-50 to four young men associated with it: Hugh G. J. Aitken, David S. Landes, Harold C. Passer, and R. Richard Wohl. These men have also been designated Resident Fellows in Economic History.

The Committee has concluded its examination of applications for its National Fellowships in Economic History for the year 1949-50. The following men have been selected: Whitney K. Bates of the University of Wisconsin, Ping-ti Ho of the University of British Columbia (a candidate for the doctor's degree at Columbia University), Douglass C. North of the University of California at Berkeley, Jelle C. Riemersma of the same institution (reappointed now for a second year), Arthur J. R. Smith of Harvard, and Lloyd Ulman of the same institution.

Other grants have been made to Mr. Robert B. Johnson of Virginia Union University, Professors M. A. Adelman and Robert K. Lamb of the Massachusetts Institute of Technology, and Mr. John T. O'Neil of the University of North Carolina.

The chairman of the Committee is Professor Arthur H. Cole, Box 37, Cambridge 38, Massachusetts.

NEW PUBLICATIONS

A series of Bulletins on Soviet Economic Development, edited by Professor Alexander Baykov, is to be published by the Department of Economics and Institutions of the U.S.S.R., University of Birmingham, England. The first series will consist of four Bulletins, to be published during 1949, devoted to the development respectively of: industry, agriculture, finance, internal trade and foreign trade. The Bulletins will be available only to those who subscribe for a series. Subscription for the first series of four Bulletins: £1 0 0 (post-free to any part of the world). Payments should be written to the Department as named above.

A quarterly bulletin, *Current Economic Comment*, which should be of interest to many members of the Association, is being issued by the Bureau of Economic and Business Research at the University of Illinois.

Necrology

Frank A. Fetter, March 21, 1949. A memoir will be published in the September number of this *Review*.

Paul Haensel, February 28, 1949.

Albert H. Mowbray, January 7, 1949.

Kenneth T. Setre, January 23, 1949.

Edward Carroll Sibley, January 6, 1949.

Appointments and Resignations

Clark L. Allen has resigned as associate professor of economics at Duke University to become chairman of the department of economics of Florida State University.

V. Lewis Bassie has been appointed professor of economics and director of the Bureau of Economic and Business Research at the University of Illinois.

A. V. Berger-Voesendorf, formerly of Farouk University, Alexandria, Egypt, is now at Gonzaga University.

Max Bloch has taken a position in the Social Security department of the United Automobile Workers, CIO.

Ed. J. Böling is instructor in statistics, College of Business Administration, University of Tennessee.

Kenneth E. Boulding has been appointed professor of economics at the University of Michigan, effective in the fall term.

Mary Jean Bowman was lecturer in economics during the spring semester at the University of California, Berkeley.

Dorothy S. Brady was appointed professor of economics at the University of Illinois in September, 1948.

Leslie J. Buchan, of Tulane University, has been appointed dean of the School of Business and Public Administration, Washington University.

J. M. Buchanan is associate professor of economics in the College of Business Administration, University of Tennessee.

Reynold Carlson, of Vanderbilt University, will be with the United Nations staff, Santiago, Chile, this summer, as economic consultant.

Paul S. Carter is instructor in accounting in the College of Business Administration, University of Tennessee.

Clyde J. Crobaugh, formerly of Fenn College, is professor of finance in the College of Business Administration, University of Tennessee.

Howard A. Cutler is instructor in economics at the University of Illinois.

Anthony Dawson was acting lecturer in economics at the University of Washington in the spring quarter.

John F. Due has been appointed associate professor of economics at the University of Illinois.

George Filipetti, of the University of Minnesota, has been appointed by the National Management Council of the United States delegate in education to the ninth International Management Congress to be held in Brussels.

Richard W. Fisher has joined the staff of the University of Kansas as instructor in accounting.

James B. Foxworth will join the staff of the department of economics and commerce of the University of Chattanooga as instructor this summer.

Donald A. Gardiner, formerly of the University of Buffalo, is assistant professor of statistics, College of Business Administration, University of Tennessee.

Gilbert L. Gifford, formerly of the University of Washington, is associate professor of transportation, College of Business Administration, University of Tennessee.

Marion H. Gillim, on leave of absence from Mount Holyoke College, is with the Office on Foreign Labor Conditions of the Department of Labor.

Eli Ginzberg, on leave of absence from Columbia University, is serving as director of the New York State Hospital Study.

Everett E. Hagen is professor of economics at the University of Illinois.

James K. Hall, of the University of Washington, has been granted sabbatical leave for the academic year 1949-50 to engage in economic research.

Jean C. Halterman has been appointed instructor in business organization and management in the College of Business Administration, University of Nebraska.

Clifford M. Hardin, professor of economics at Michigan State College, has been appointed director of the college's agricultural experiment station.

Einar Hardin has joined the faculty of the University of Minnesota as instructor in economics.

Victor C. Heck, of Vanderbilt University, has accepted an appointment as professor of economics and chairman of the department of economics and business administration, Mercer University.

Vern G. Hefte, formerly of the University of Iowa, is assistant professor of accounting in the College of Business Administration, University of Tennessee.

Oris C. Herfindahl was appointed instructor in economics at the University of Illinois in September, 1948.

Hans Heymann is lecturer in economics at the University of Illinois.

Abraham Hirsch, formerly of the National Bureau of Economic Research, is now assistant professor of economics at the College of William and Mary.

Malcolm W. Hogg was appointed assistant professor of economics at the University of Illinois in September, 1948.

Harriet D. Hudson was appointed assistant professor of economics at the University of Illinois in September, 1948.

Leonid Hurwicz has returned to his position at Iowa State College after a year's service with the Economic Commission for Europe of the United Nations.

A. L. V. Ingram has been appointed assistant professor of economics at Wofford College, South Carolina.

Allen H. Keally, formerly of the University of Pennsylvania, is associate professor of industrial management, College of Business Administration, University of Tennessee.

Charles C. Killingsworth has been promoted to professor and head of the department of economics at Michigan State College.

E. A. Kincaid has resigned as economist and vice president of the Federal Reserve Bank of Richmond and will devote full time to his work as professor of economics at the University of Virginia.

Carl Kreider, of Goshen College, has been appointed director of the Workshop in Higher Education to be held at the University of Minnesota this summer.

Clarence E. Kuhlman, formerly of the University of Mississippi, is associate professor of transportation, College of Business Administration, University of Tennessee.

Dorothy Lampen has been promoted to the rank of associate professor of economics at Hunter College.

John Lindberg, formerly of the Institute for Advanced Studies at Princeton, served as visiting associate professor of economics at Swarthmore College during the academic year 1948-49.

John Lobb has been named chairman of the department of economics and sociology of Mount Holyoke College.

Donald Love has been appointed part-time instructor in economics at Lafayette College.

Arthur W. Marget is director of the Finance Division, Office of the Special Representative, Economic Cooperation Administration, in Paris. He was incorrectly reported special financial adviser, U. S. Embassy, Paris in the December number of this journal.

Raymond H. McEvoy was appointed assistant professor of economics at the University of Illinois in September, 1948.

Leon Megginson has been appointed instructor in management, Louisiana State University.

Charlotte F. Muller was lecturer in economics in the spring semester at the University of California, Berkeley.

Edward G. Nelson has been promoted from associate professor to professor of economics at the University of Kansas.

William H. Nicholls, of Vanderbilt University, will teach during the summer session at the Salzburg, Austria, Seminar in American Studies, sponsored by the Harvard Student Council and the World Student Service Fund.

Ralph P. Norton has resigned as instructor in labor and industrial relations, University of Illinois, to edit the Vermillion County Star newspaper in Danville, Illinois.

Louis W. Nuesse is associate professor of industrial management in the College of Business Administration, University of Tennessee.

John E. Orchard, of the School of Business, Columbia University, has joined the staff of the Economic Cooperation Administration, Paris.

Morton Paglin has been appointed instructor in economics in the College of Commerce, Louisiana State University.

Don Patinkin, formerly associate professor of economics at the University of Illinois, is now lecturer in economics at the Hebrew University in Jerusalem.

Gardner Patterson has been appointed to the directorship of the International Finance Section of the department of economics and social institutions at Princeton University.

Frank C. Pierson is on leave of absence from Swarthmore College to direct research in labor economics at the University of California at Los Angeles.

Charles L. Quittmeyer has resigned from the Connecticut General Life Insurance Co. to become assistant professor of economics and business administration, College of William and Mary.

E. G. Rasmussen, who has been on a General Education Board fellowship at the Harvard School of Business Administration, will resume his work at Vanderbilt University beginning with the summer quarter.

Margaret G. Reid was appointed professor of economics at the University of Illinois in September, 1948.

Ronald Reifler has been appointed instructor in the economics department of Claremont Men's College.

Raymond J. Saulnier has been promoted to the rank of professor of economics at Barnard College.

Willard J. Saunders has been appointed assistant professor of business administration at San Jose State College.

Wilson E. Schmidt has been appointed instructor in economics at the University of Virginia.

Ned H. Scott has been appointed instructor in accounting at the University of Florida.

Edith G. Severo will act as substitute for Mrs. Janet Sundelson, who has been granted leave of absence from Barnard College for the academic year 1949-50.

Everett R. Shaw is assistant professor of economics at Arizona State College.

Joseph Shister, of Yale University, has been appointed associate professor of industrial relations in the school of Business Administration, University of Buffalo.

Carl S. Shoup, of the School of Business, Columbia University, is directing a study of the Japanese tax system for the United States Army in Japan.

Lewis B. Sims, who was detailed to the Hoover Commission from his position as assistant chief of the Governments Division of the Census Bureau, has now transferred to the Public Health Service.

Edward L. Smith has been promoted to the rank of associate professor of economics at Hunter College.

Douglas B. Smith was appointed instructor in economics at the University of Illinois in September, 1948.

Dallas W. Smythe was appointed professor of economics in the Institute of Communications Research, University of Illinois, in September, 1948.

Thorn K. Snyder has been appointed instructor in economics at Purdue University.

Frank A. Southard, Jr., has resigned as associate director of the Division of Research and Statistics of the Board of Governors of the Federal Reserve System to accept the position of United States executive director of the International Monetary Fund.

Edwin H. Spengler has been promoted from associate professor to professor in economics at Brooklyn College.

David K. Spiegel has been promoted from instructor to assistant professor of economics at Pratt Institute.

Ross Stagnår, formerly of Dartmouth College, has joined the staff of the University of Illinois as professor in labor and industrial relations.

Jack Stieber has resigned as instructor in economics at the University of Minnesota to be assistant director of research for the United Steel Workers' Union in Pittsburgh.

Robert M. Strahl, formerly of the University of Nebraska, is associate professor of marketing, College of Business Administration, University of Tennessee.

Theodore A. Sumberg has accepted an appointment as economist for the new fortnightly magazine, *The Reporter*.

Boris C. Swerling has been promoted to assistant professor of economics at Brown University.

A. G. Taylor, head of the department of political economy, has been elected Chancellor Distinguished Professor by the Board of Visitors of the College of William and Mary.

W. Bayard Taylor, of the University of Wisconsin, has joined the staff of Claremont Men's College as professor of business economics.

C. F. Joseph Tom was appointed instructor in economics at Beloit College in September, 1948.

E. T. Towne retired as dean of the School of Commerce, University of North Dakota, in September, 1948.

Joseph F. Trosper, formerly of Indiana University, is instructor in economics in the College of Business Administration, University of Tennessee.

Charles J. Walsh is serving as consulting economist to the Research Institute of America in addition to teaching in the Graduate School of Fordham University.

Ralph J. Watkins, of the School of Business, Columbia University, is serving as director of the Office of Plans and Programs, National Security Resources Board.

E. T. Weiler was appointed professor of economics at the University of Illinois in September, 1948.

Morris Weisz, formerly with the National Labor Relations Board, is temporarily special assistant to the Commissioner of Labor Statistics, Department of Labor.

Edmund Whittaker, formerly of Indiana University, has joined the faculty of Colorado Agricultural and Mechanical College.

Jack H. Wilcox, formerly of Missouri Valley College, is associate professor of finance, College of Business Administration, University of Tennessee.

Charles W. Williams has resigned as professor of economics at the University of Louisville, Kentucky, to become vice president of the Federal Reserve Bank of Richmond.

H. Lawrence Wilsey has been appointed assistant dean of the College of Commerce and Business Administration, University of Southern California.

Herman J. Wyngarden, professor of economics at Michigan State College, has been appointed dean of the college's School of Business and Public Service.

Theodore O. Yntema has resigned as research director of the Committee for Economic Development. He is now vice president of the Ford Motor Company for Finance.

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ALLYN ABBOTT YOUNG

*Twenty-seventh President of the
American Economic Association, 1925*

Allyn A. Young was born at Kenton, Ohio, September 19, 1876. He died in London, March 6, 1929.

Allyn Young's academic career was remarkably varied. After receiving his Ph.B. degree from Hiram College, Ohio, in 1894 and his Ph.D. from Wisconsin in 1902, he moved consecutively from Western Reserve University, to Dartmouth College, to Leland Stanford (where he was head of the department of economics, 1906-11), to Washington University at St. Louis (professor of economics, 1911-13), to Cornell (professor of economics and finance, 1913-20), thence to Harvard (professor of economics, 1920-), and finally to the University of London (professor of political economy from 1927 until his death in 1929).

While eminently competent as a scholar and teacher in a wide range of economics, he left behind him no large body of publications. He wrote a great many reviews and notes and some elaborate papers, the more notable of which were assembled in a volume entitled, *Economic Problems New and Old*, published in 1927. *An Analysis of Banking Statistics* (1927) was reprinted from the *Review of Economic Statistics*. He was joint author of the 1909, 1916, and 1923 revised editions of Richard T. Ely's *Outlines of Economics*.

After the war he served as a member of the Massachusetts Commission on Pensions. He also assisted Jeremiah Smith in the rehabilitation of Hungary under the auspices of the League of Nations.

A minute, prepared by a committee of the American Economic Association, was published in the June, 1929, issue of the *American Economic Review*, pages 346-348.

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NEOCLASSICAL ECONOMICS AND MONETARY PROBLEMS

By PAUL B. SIMPSON*

In his *Price Flexibility and Employment*, Professor Oscar Lange maintains that neoclassical thought is incapable of dealing with problems of money, trade fluctuations, and unemployment because it utilizes a method of partial equilibrium to analyze problems of total effects, and for such problems only a method of general equilibrium is applicable.¹ This paper considers the relation of classical or traditional thought to monetary and employment theories and illustrates the points with brief discussion of the works of some outstanding orthodox economists. The point of view presented is that neoclassical thought in its conception embraces monetary subjects but through an unfortunate association with static systems has become divorced from these important subjects. With this background, Lange's argument will be examined.

I

Neoclassical economics is a body of analysis derived from postulates concerning individual behavior in its efforts to maximize well-being. Individualistic and hedonistic in its approach, as formulated by Adam Smith, it has not been changed in this respect. Keynesian and other systems of thought also appeal to these principles, though scarcely as directly and completely as classical thought. About this there is little disagreement. The question of the relation of traditional thought to monetary economics turns on the interpretation and generality of those individualistic hedonistic behavior principles. If they are con-

* The author is associate professor of economics at the University of Oregon.

¹ *Price Flexibility and Employment* (New York, 1944), p. 1. Professor Lange uses the terms traditional and orthodox economics without specifying the economists so described. Reading of the text indicates that Lange has reference to the English neoclassical and the Lausanne schools primarily.

fined to individual choice under known conditions, that is under conditions of certainty, then the maximizing behavior is of a very constrained sort. If such be the nature of traditional thought, then it must be granted that problems of monetary behavior, trade fluctuations, and the like are outside the area of such thought. For individual choice under certainty is the basis of an economic system of equilibrium where money and trade fluctuations are of little or no importance. If, on the other hand, traditional thought covers the case of individual efforts to maximize welfare under conditions of uncertainty, then there is every reason why it should be germane to the broad problems of monetary economics.

The correspondence of economic systems postulating choice under certainty with equilibrium systems is well understood.² If each individual knows his alternatives, then each individual succeeds in maximizing his welfare. No improvement is possible from an individualistic point of view, no individual can be under motivation to regret or alter his decision. Equilibrium exists. If, on the other hand, individuals must decide their actions under uncertainty, then some regrets and changes of plans are sure to occur. Disequilibrium exists, and the time sequence of events will show fluctuations inconsistent with an optimum allocation of resources.³

The importance of certainty postulates in the creation of economic systems and the great effect that they have on the nature of a body of thought can be illustrated with a simple example. Assume (1) there is one good a , produced by one factor, labor, l ; (2) one unit of

² Professor Frank Knight first made this equivalence clear. *Risk Uncertainty and Profit* (Boston, 1921).

³ Professor Paul A. Samuelson and Professor Ragnar Frisch distinguish statics from dynamics on the basis of the importance of time in determining the evolution of the analytical system. Professor Erik Lindahl and Professor J. R. Hicks have adopted quite similar definitions. It is not hard to see that uncertainty is the basic element giving rise to the essentiality of time in the economic process, since under uncertainty the basic determinants are modified or overpowered by the events of time. The very essence of behavior under uncertainty is that judgments are revised as experience is gained.

It seems to the writer preferable to emphasize the postulutory basis rather than a property of analysis in distinguishing statics and dynamics. There is danger of defining a system that has little meaning economically when analytical properties are put in the foreground. Thus the Samuelson system of stability in multiple markets,

$$dp_i/dt = F_i(p_1, p_2, \dots, p_n) \quad i = 1, 2, \dots, n$$

where p_i is the deviation from equilibrium price, has only a very loose economic interpretation since it does not specify what transactions take place. Professor Lange very likely has tripped over the interpretation of this system, which he develops in the appendix of the work cited. Paul A. Samuelson, *Foundations of Economic Analysis* (Harvard University Press, 1947), pp. 311-17. Ragnar Frisch, "On the Notion of Equilibrium and Disequilibrium," *Rev. Econ. Stud.*, Vol. III (Feb., 1936), p. 100. Erik Lindahl, *Studies in the Theory of Money and Capital* (New York, 1939), pp. 31-40. J. R. Hicks, *Value and Capital* (Oxford, 1939), p. 115.

labor makes one unit of a ; (3) the price of labor is $100 = p_1$; (4) each laborer acts as his own entrepreneur; (5) savings are zero; (6) labor supply is a function of real income, say $f(a)$; (7) each laborer knows that he can work for the price 100 and that the price of a will be 100. Under such assumptions equilibrium conditions are that the price of labor be 100 and that the supply equal demand of labor, and there is no doubt that equilibrium will be achieved.

If we suppress assumption (7) dealing with foresight, we must replace it with a new specification of behavior under conditions of uncertainty. Out of the infinite possibilities for the form of such postulates we can select in place of (3) and (7) above the following: (3') the price of labor lowers in a time period by a proportion of the unemployment of the previous period; (7') production in time t changes by a constant per cent of the indicated profit in time t : (7'') the price of labor in time t is known and the price of a in time $t-1$ is expected to remain unchanged throughout t . It follows that if employment is below the equilibrium level, the price of labor falls, the anticipated profits increase, employment increases, and the economy moves toward equilibrium, though it would not reach it in finite time. A possible sequence of events starting from a particular point and using particular constants is shown in the following table.⁴

t	p_1	a
0	100.0	90.0
1	99.0	92.0
2	98.2	93.6
3	97.6	94.9
4	97.0	95.9
∞	95.0	100.0

⁴ Mathematically we have the system

$$\begin{aligned} p_{1t} &= p_{1t-1} - k_1 (L - a_{t-1}) \\ a_t &= a_{t-1} + k_2 (p_{at-1} - p_{1t}) \end{aligned}$$

where L , k_1 , k_2 are positive constants. But since savings are zero, the value of production equals the value of income disbursements and the price of labor and of a are equal, i.e. $p_{at} = p_{1t}$. Substituting and solving, one obtains

$$\begin{aligned} p_{1t} &= (L - a_0) (1 - k_1 k_2)^t / k_2 + p_0 + (a_0 - L) / k_2 \\ a_t &= L + (a_0 - L) (1 - k_1 k_2)^t \end{aligned}$$

which yield stable solutions if $k_1 k_2 < 1$. The solution which yields the table above was obtained by using $k_1 = .1$ and $k_2 = 2$.

It will be observed that this system postulates behavior without a very thorough theory of maximization of welfare. Nor are the monetary properties described. To fill these deficiencies would require more space than would be justified, although a truly classical dynamic system demands that it be done.

By stating the behavior postulates in precise form under conditions of uncertainty, an evolutionary or dynamic picture is achieved which passes beyond equilibrium states and which is much more general in its conception. By complicating the behavioristic assumptions under uncertainty, and also by complicating the structural elements, *i.e.*, the number of commodities, properties of production functions, etc., diverse analytical models can be created.

The key to appraising the relation of traditional thought to monetary economics lies in its position relative to uncertainty. Other issues such as that of general *versus* partial equilibrium are of secondary importance. In so far as traditional thought confines itself to conditions of certainty, it fails to be a monetary system. In so far as it involves behavior under more general circumstances, it is potentially at least a monetary system. It is from this standpoint that it is proposed to consider some instances of economic analysis.

Since traditional thought is so widely represented in economic literature, it is not possible to characterize its treatment in a simple formula. A surprisingly large amount of traditional thought, however, can be represented under three headings, as follows: (1) Classical works proper in which both certainty and uncertainty economics are represented, but in which the relation of the two is never clearly expressed, Adam Smith, T. R. Malthus and Alfred Marshall being outstanding examples; (2) Classical writers who exclude uncertainty elements almost entirely⁵—exemplified by David Ricardo, J. B. Clark, Lionel Robbins,⁶ and Frank Knight; (3) Classical writers who attempt to construct uncertainty or dynamic systems on the basis of certainty or static systems—examples, A. C. Pigou, Knut Wicksell, Friederich von Hayek, D. H. Robertson, and J. R. Hicks. We shall discuss briefly one writer from each of these groups, namely, Marshall, Knight, and Hicks.

II

Marshall's *Principles of Economics* makes every effort to be a monetary economics and economics of uncertainty, though it does not

⁵ Don Patinkin has taken this attitude toward classical economics in his interesting essays on the subject. "Relative Prices, Say's Law, and the Demand for Money," *Econometrica*, Vol. 16, No. 2 (Apr., 1948), p. 127; "The Indeterminacy of Absolute Prices in Classical Economic Theory," *Econometrica*, Vol. 17, No. 1 (Jan., 1949), p. 1.

Professor Joseph Schumpeter could be included in this list, since Schumpeter uses classical thought to define Normality and as "*a description of an apparatus of response*" (Schumpeter's italics). This dualism raises a good many theoretical issues which cannot be gone into here. *Business Cycles* (New York, 1939), p. 68.

⁶ The characterization of economics as the study of allocation of scarce resources among given ends implies static or certainty postulates or else is very vague. Lionel Robbins, *An Essay on the Nature and Significance of Economic Science* (London, 1932), pp. 12-15.

achieve such a goal. Certainty or static formulations are avoided; behavioristic postulates are stated. If the result is not a monetary or dynamic system, the reason is that the problem is too large, not that the attempt is not made. Let us note first the behavioristic assumptions which Marshall uses. A tolerably complete listing of such assumptions, omitting the broader and more institutional assumptions, is shown below:

1. With a given income and with a given price situation a consumer spends his income so as to maximize his utility. Marginal utility of a good decreases with the amount purchased, other quantities constant. Anticipated future utilities are discounted at a known rate by each consumer, and allocation made for future consumption in the light of alternatives determined by interest rates and anticipated future prices. (Book III, Chaps. IV and V.)
2. The amount of saving by a consumer is determined mainly by personal and social factors but in general increases with interest rates. (Book IV, Chap. VII.)
3. The amount of work which an individual worker will do is an increasing function of the price of work. (Book IV, Chap. I.)
4. A farmer allocates his expenditure upon land, capital, and labor so as to maximize his estimated returns from his total expenditure. (Book IV, Chap. III.)
5. The numbers of youths educated in particular skills are increasing functions with distributed time lags of the wages in those skills. The numbers of workers of a particular skill employed in particular firms and industries are similarly functions of wages in the firms and industries. (Book IV, Chap. VI.)
6. The supply of business management is a function of the price of management and of the individual managers' abilities to command confidence in borrowing money. (Book IV, Chap. XII.)
7. For the anticipated prices of sales of a product at a given time in the future, and the anticipated costs of variable factors relevant to that time, each businessman acts to minimize his costs of production and to maximize his expected profit. (For capital goods the cost is interest.) (Book V, Chap. V.)
8. Businessmen's calculations are disturbed by uncertainty. (Book V, Chap. VII.)

Is this set of behavior postulates when fitted out with proper definitional, descriptive, and identity relations an adequate foundation for the erection of an economic system or not? The answer must be no. If one suppresses the uncertainty elements in postulates 5, 6, 7, and replaces them with a postulate that foresight is perfect, one does have a sufficient set of postulates for an equilibrium economy. This, Marshall does not intend. He rebels at the notion of stationary states and static equilibrium, and he frowns on mathematical methods which express such conditions. His emphasis is on the continuity of change; the gap between the time of economic planning and the occurrence of events derived from those plans is never forgotten. Moreover, when Marshall is on guard he himself sees that the evolution of events is

not explicable in terms of equilibrium determinants, and that the source of the difficulty is uncertainty. This is evident in the inclusion of uncertainty among the postulates of behavior listed above, and in many passages, for example the following: "We cannot see the future perfectly—the unexpected may happen and the existing tendencies may be modified before they have had time to accomplish what appears now to be their full and complete work" (p. 347).

If we deny that the Marshallian system is an equilibrium system (which we clearly must), and interpret it as a dynamic or uncertainty system, we find it an inadequate work. The only solution to the dynamic problem which Marshall found was to use equilibrium determinants as the motivators of change, as kind of will-o'-the-wisps beckoning the real economy, but always evading grasp. "The demand and supply schedules do not in practice remain unchanged for a long time together—this gives new positions to the center about which the amount and the price tend to oscillate" (p. 364). Equilibrium evidently affects the dynamic process, but just how is not clear. There is no definitive economics of change.

The source (and reflection) of the difficulty is evident in the postulates which have been listed above. The postulates are not adequate for the creation of a disequilibrium system. Postulates 6 and 7, particularly, are vague. An entrepreneur makes plans on the basis of expected prices. But by what process does he determine expected prices? Does he use present prices, past prices, extrapolated trend prices or what? And having determined his expectations, how definitively does he act on those expectations? One possibility particularly was neglected, namely, that an entrepreneur will do nothing temporarily except to wait for more evidence to accumulate about the factors that influence his well-being. How the economic system operates depends on the specific assumptions made.

Postulates 7 and 8 above are not only vague but are formulated so as to be inadequate for the creation of uncertainty systems. Suppose that it is assumed that entrepreneurs follow a particular system of forming expectations about future prices, for example that they expect present prices to persist. If they form these expectations precisely and with conviction, they will be able to calculate the profit realizable from each possible economic activity. They would seize then upon the most profitable and act upon it with thoroughness. They would go completely into or completely out of cash. Economic movements would be violent, especially if different entrepreneurs had similar anticipations. In fact, reactions would be so violent that entrepreneurs would soon cease to hold their anticipations with such certainty. Such precision of expectations does not yield a sensible economic system. Expectations must be in terms of probabilities if there is to be a sensible

hedonistic economics of uncertainty, particularly if money is to be introduced into the system. Marshall's postulates not only do not define behavior precisely, but are formulated in terms that cannot be used satisfactorily for a precise statement.

It is not easy to recognize this lack of precision in Marshall's work, because he has treated the matter of expectations in a general sense with thoroughness. The types of information which may affect expectations and plans are nowhere better described. For example, we are introduced to the speculative builder who weighs every type of evidence regarding the costs and demands for homes before building. The workings of the minds of the grain merchant and the clothmaker are even more fully explored. The consideration of a particular set of possible modes of decision-making is lacking, and this lack is critical.

Since the postulates themselves are inadequate for construction of an uncertainty system, the deductive consequences of any assumed formulation of economic behavior under uncertainty cannot be effectively stated. Even if we read Marshall's description of individual behavior as a theory of speculation, it is not clear what the consequences are. Marshall resorted to approximations to equilibrium, and this is obviously not adequate as a description of the economic process. Speculative behavior does not necessarily lead to equilibrium; we need to know when, how, and in what degree it does lead to equilibrium.

The point to be emphasized is that the problems of creating an uncertainty economics are well presented in Marshall. These are: (1) how to state principles of behavior when individuals attempt to maximize welfare under conditions of uncertainty, (2) how to combine these principles with assumed sets of economic experience of individuals to obtain the implied actions of individuals, (3) how to trace the economic consequences of (1) and (2) in the whole economic system, thus determining the experience of individuals (and hence the data of (2) at a later date). Later writers have tended to seize upon the defects of Marshall's equilibrium system for comment and correction, and have neglected the important questions posed by the work.

In recent times much has, however, been done in developing the uncertainty elements of Marshall's work, though with little stress upon the relation of this work to the Marshallian tradition. For example, the translation of maximization of welfare principles into uncertainty situations through the use of probability notions has been made by various writers. More formalistic statements have been suggested by Professor Gerhard Tinter and Professor J. Marschak.⁷ These

⁷ Gerhard Tinter, "The Theory of Choice Under Subjective Risk and Uncertainty," *Econometrica*, Vol. 19, Nos. 3 and 4 (July and Oct., 1941), p. 298, and "A Contribution to the Nonstatic Theory of Production," *Studies in Mathematical Economics and Econometrics*

statements are simple extensions of classical statements and are adequate to show, for example, that speculative monetary behavior is an inherent part of rational behavior. If price estimates are probability estimates, then the holding of money has certain advantages readily stated in terms of traditional maximization theory.

Investigations have been made into the implications of economic behavior under uncertainty. For example, Professor Frisch's work on production time lags deals with the effects of investment decision on future economic life and thus deals with the implications of decisions made on the basis of past experience and uncertain knowledge of the future.⁸ This study is directly related to the Marshallian notions of long- and short-run costs. The cobweb theorem, the accelerator principle, and studies of inventory cycles also consider the implications of patterns of decision-making under uncertainty.

Many empirical studies develop and consider dynamic patterns of behavior. Reference is to such studies as those of the National Bureau of Economic Research on cash balances, inventories and professional income, and to such as those of Professor J. Tinbergen on factors affecting entrepreneurial decisions of investment. It seems likely that the development of theoretical uncertainty systems will require such empirical grounding, since the number and complexities of plausible *a priori* systems are greater than for equilibrium economics. It is surely possible and perhaps desirable that these researches be better coordinated with a general dynamic or uncertainty system of thought built up along Marshallian lines.

III

Professor Frank Knight was foremost among those who saw the difficulty in Marshall discussed above, namely the looseness of the relation between behavior under uncertainty and equilibrium analysis. *Risk, Uncertainty, and Profit* is largely devoted to the task of making classical thought rigorous.⁹ This objective is tackled and achieved in the sense that definitions and assumptions are made precise under the special conditions of certainty. The result is an excellent criticism of

(University of Chicago Press, 1942); J. Marschak, "Money and the Theory of Assets," *Econometrica*, Vol. 6, No. 4 (Oct., 1938), p. 311.

⁸ Ragnar Frisch, "Propagation Problems and Impulse Problems in Dynamic Economics," *Economic Essays in Honour of Gustav Cassel* (London, 1933), pp. 171-205.

⁹ "We have developed an historic body of theoretical economics which deals with 'tendencies,' i.e., with what would happen under simplified conditions never realized, but always more or less closely approached in practice. But theoretical economics has been much less successful than theoretical physics in making the procedure useful, largely because it has failed to make its nature and limitations explicit and clear." *Op. cit.*, p. 16.

classical thought and the beginning of a new type of institutional economics. From the standpoint of technical economic analysis, the work, however, had the unfortunate tendency of constraining classical thought to ideal and unreal situations.

An outline of the work is sufficient to indicate its nature. We have first a picture of economic life under conditions of certainty, that is, an equilibrium system or, as Knight calls it, a system of perfect competition. We are introduced to the calculations of a boy eating berries, the weighing of costs and returns of the healthy appetite which knows what it wants and how to get it. We follow to the more complicated calculations of Robinson Crusoe, to the pure exchange economy, and finally to the specialized capitalistic economy. We are shown in brilliant exposition that as long as the alternatives open to each individual can be clearly formulated, an economic system based on such foundations makes sense and possesses certain optimum properties for human welfare, however complicated and specialized the rôles of the individual members of that economy may be.

The second part of the work is devoted to a consideration of the effects on such a system of uncertainty. If the calculations of individuals are upset by uncertainty regarding their alternatives, what then? We learn that various changes occur in the structure of organized society. Specialists assume the role of estimating alternatives. The entrepreneur and his staff of hired sharers of the task, come into being. And with the new rôle comes a new economic return, profit (and loss), the reward to "superior" ability in appraising the alternatives of economic choice and activity. The place of economic institutions, the firm, management, capitalists, speculators, etc., in the economic task of allocation of economic resources is brilliantly illuminated.

It will be observed that Knight has reversed the Marshallian order of study. Whereas Marshall conceived of behavior first and attempted to deduce the laws of economic life, equilibrium occupying a kind of catalyzing rôle, Knight reverses the approach. He defines equilibrium first, and considers behavior in terms of its relation to equilibrium. This is an excellent device for the purpose of relating the work of economic institutions to the aim of economic life. The contrast of the straight road of economic life with the crooked road can be used to explain the nature of things. It is not, however, a good device for improving the understanding of the economic process itself as distinct from the kind of forces which act on it. The Marshallian task of describing the dynamic process is circumvented. By taking equilibrium as his point of departure, Knight constrains classical thought. Monetary and dynamic problems are excluded. The approach is essentially moralistic and philosophical.

IV

Professor J. R. Hicks in *Value and Capital* has undertaken an extension of equilibrium economics to a monetary system. He uses equilibrium conditions as a basis for a set of dynamic determinants, reinterpreting the formal relationships of equilibrium in a wider significance. He believes that the method of general equilibrium makes possible this expanded use of equilibrium notions.¹⁰ Unfortunately, however, Hicks neglects the behavioristic part of his apparatus. By overlooking the implicit behavioristic assumptions of static analysis, he puts more weight on the formal determinants than they can bear, and the attempt to build a dynamics out of statics fails. There is triumph in this failure, however, since it is done so explicitly that it exposes the impossibility of this approach which has been utilized by many writers, and with ill success.¹¹

Although Hicks develops two analytical schemes, a statics and a dynamics, and characterizes the two on the basis of the exclusion or inclusion of time as a basic ingredient of the system, it is uncertainty that more strikingly distinguishes the two. In the statics there is no mention of choice under uncertainty, all individual choices being made among known alternatives. In the dynamics, uncertainty plays a prominent rôle, the theory of interest in particular being based largely on risk concepts.¹² But the difficulties of uncertainty which are seemingly avoided in the statics actually arise there too. Uncertainty is so treacherous a matter that it rears its ugly head in unforeseen places, and it had caused Hicks trouble before he was aware of its existence.

For purposes of the present discussion it will suffice to consider one phase of Hicks' work, the static pure exchange economy. Hicks uses this model himself and it simplifies the discussion. Production under conditions of certainty is not a source of important complications, and can be safely subordinated. We picture, then, an economy composed of a group of consumers each of whom has an initial stock of one or more of n consumer goods. Trade takes place among the consumers under conditions of perfect competition. What are the terms of trade?

¹⁰ "I believe I have had the fortune to come upon a method of analysis which is applicable to a wide variety of economic problems. . . . The method of General Equilibrium, which these writers (Walras, Pareto, and Wicksell) elaborated, was specially designed to exhibit the economic system as a whole. Our own work is bound to be in their tradition." *Op. cit.*, pp. 1, 2.

¹¹ Paul A. Samuelson has pointed out such difficulties in Hicks' methods. *Op. cit.*, pp. 269-75.

¹² But not exclusively so. A careful reading of Chapters XVII, XVIII, XXIII, and XXIV shows that time preference and productivity of indirect processes are essential parts of the interest determination. Hicks treats these determinants through the device of the effect of interest rate changes on behavior and not conversely, thus very largely concealing their existence.

Hicks defines equilibrium conditions of trade in a thoroughly traditional manner. We have one good chosen for a numéraire and we assume a preference function for each consumer. Equilibrium is determined where (1) the ratio of marginal substitutability of each two goods equals the ratio of prices for each consumer, (2) each individual's budget is in balance, (3) total sales equal total purchases of each commodity. The definition of Walrasian equilibrium by the fulfillment of these simultaneous conditions is conventional and requires no comment here.

Hicks defines stability of equilibrium in terms of excess supply when non-equilibrium prices are considered.¹³ To consider the stability of a market for one commodity a , we consider the price of a to be out of equilibrium, say, for convenience, above the equilibrium level. For the other $n-1$ prices we consider $n-1$ possibilities where any m prices are at new "auxiliary" equilibrium levels preserving equality of demand and supply for them, and the remaining $n-1-m$ prices are at original equilibrium prices. If supply exceeds demand for a in each of these situations, the market is said to be perfectly stable. Thus stability is defined essentially by maintaining conditions (1) and (2) of equilibrium and asking what happens to equation (3) when non-equilibrium prices are considered. The sign of the difference of supply and demand is taken to define stability. Too high a price must create excess supply if the market is to be stable.

With one exception to be noted presently, this is a harmless logical exercise provided it is understood that it is not an economic argument and that nothing is being said about the operations of markets. The problem of how markets behave in disequilibrium cannot be discussed within bounds of assumptions of trade under conditions of certainty. No trade will occur at disequilibrium prices under such conditions. If we maintain conditions (1) and (2) of the equilibrium conditions, condition (3) must be maintained also, since some individual acts contrary to his best interest (assumed in [1]) if supplies and demand are not equal. We thus have a contradiction. To put the argument another way, if trade takes place at non-equilibrium prices, somebody has caused to regret that he allowed these prices to be maintained. Whose those persons are that have such regrets, and what commodities are involved are matters that cannot be discussed within the framework of choice among known alternatives. To discuss disequilibrium market under new assumptions involving speculative and uncertainty behavior are necessary. The old Marshallian dilemma has not been solved.

In one case even the formal properties of the Hicksian stability analysis break down. This is the case of perfect stability. If $n-1$ price

¹³ *Op. cit.*, p. 67 and p. 315.

are at "auxiliary" equilibrium levels, maintaining equality of supply and demand in those markets, the n th price must be an equilibrium price too. There is no meaning to perfect stability as Hicks defines it.¹⁴ If all individual budgets balance at a given set of prices and n - l markets are in equilibrium, the n th market must also be in equilibrium.

The truth is that the Hicksian devices are essentially ones of comparative statics and not of stability. The Slutsky equation interpretation of consumer behavior analyses the change in individual purchases of goods when prices of goods change. But the significance of a price change in a general equilibrium system can only lie in a change of tastes or some other parameter of the system; it has no disequilibrium significance. A price change to a whole system has reflected, but not original, properties. Thus the Slutsky equation and other Hicksian devices for discussing "stability" and "laws of markets" are essentially methods of comparative statics. It is here that the true path of Hicks' analysis lies. The shift in point of view from partial to general equilibrium is important to problems of comparative statics, but it does not meet the problems of uncertainty, dynamics, and monetary events.¹⁵

¹⁴ Hicks' error lies in deriving market supply and demand functions from individual supply and demands derived in turn from equilibrium conditions of individual traders and then considering these aggregate equations independently under nonequilibrium conditions, which he is not entitled to do. The equations still define equilibrium.

We have given consumer preference functions for P people say $\Phi_j(x_i)$, $j = 1, 2, \dots, P$; $i = 1, 2, \dots, n$, and P sets of initial stocks of goods say x_{ij} . Let $p_1, p_2, \dots, p_n$ represent prices which put the corresponding markets in equilibrium. Letting Δ_{ij} denote the quantity which each individual buys (or sells if negative), we have under the hypothesis of perfect stability,

$$\sum_{j=1}^P p_i \Delta_{ij} = 0 \quad i = 2, 3, \dots, n$$

Let p_1 be any price whatsoever for the good 1. Since each individual balances his budget

$$\sum_{j=1}^P \sum_{i=1}^n p_i \Delta_{ij} = 0$$

Aggregating and combining, one obtains

$$\sum_{j=1}^P \sum_{i=1}^n p_i \Delta_{ij} - \sum_{i=2}^n \sum_{j=1}^P p_i \Delta_{ij} = 0$$

or

$$\sum_{j=1}^P p_1 \Delta_{1j} = 0$$

Thus p_1 must be an equilibrium price also. If individual budgets balance there can be no set of prices such that only one of them is out of equilibrium. But perfect stability is defined in terms of one price being out of equilibrium.

¹⁵ Hicks' misunderstanding of the nature of his methods results in another error of importance, namely, the assertion that in a world of substitutary commodities a change in demand will change all prices in the same direction. If trade takes place between A and B, and A has a preference function depending on a parameter a , then a change in a increasing the demand for one good may raise or lower the equilibrium prices of substitutary commodities. Cf. *Value and Capital*, p. 75 and p. 255.

V

Although the extracts from the history of traditional economics are scarcely sufficient to serve as a basis for generalization about the relation of traditional thought to monetary systems, they do suggest certain conclusions. First, is the obvious one that the behavior postulates are fundamental to the statement of economic theories, and that the manner in which the postulates treat the certainty of choice of alternatives is crucial. The temptation to restrict traditional thought to certainty conditions has hindered its development. On the other hand, it was not so restricted in Marshall and there is no reason to restrict it except for the great intellectual labor required for its extension.

Secondly, we note that when traditional thought is viewed in the manner here advanced, much current economic research of a non-static variety does bear on the problem of extending classical thought.

Thirdly, we venture to suggest that monetary systems are essentially short-cut devices to cut through the complexities of erecting a classical system of uncertainty economics out of maximizing postulates. It was perhaps inevitable that pending the establishment of such a basic system, other systems would be forthcoming to fill the intellectual void created by their absence. Reflection upon the nature of the devices utilized in monetary economics indicates that these systems fit that description very well. The basic device is to postulate human behavior in terms very closely allied to the properties of the system which it is desired to determine. In that way the intellectual problem of passing from postulate to conclusion is much reduced, and the economic system made much more manageable.

A familiar example is the quantity theory of money. Here the postulate defines behavior in terms of the ratio of cash balances to expenditures. A whole complex of problems regarding the determinants of expenditures is avoided. Given such a postulate, conclusions regarding velocity, volume of transactions, and price levels are readily forthcoming. A handy tool of analysis is thus provided.

With Keynes, the postulates are more complex although essentially of the sort under discussion. Marginal efficiency of capital, propensity to consume, and liquidity preference are omnibus postulates, determined by all kinds of economic factors. Once given, however, they lead quickly to determinate results. They act as guide posts amongst the complexities of economic life, and are for that reason very convenient and useful.

Lange has now introduced a monetary device of this kind which is of startling simplicity and generality. Human behavior is described in terms of its propensity to accumulate cash, and this propensity is related directly to problems of unemployment of resources. This de-

vice will now be examined to see how adequate it is for the analysis of monetary and employment problems, and to see what light it sheds on the nature of neoclassical economics.

VI

The excess demand for cash balances is a budgetary identity applicable not to what happens in the economic world, but to the plans of all individuals and firms as of a given time. Confronted with a given situation, each individual will have a plan to get into or out of cash at the expense of getting out of or into commodities and securities. The amount of cash which it is planned to accumulate is defined as the excess demand for cash balances. The "accumulation" may be negative in case the desire is to lower cash balances. This aspect of individuals' plans, the contemplated cash accumulations (or releases), is the key to the analysis of the course of economic events so far as employment problems are concerned. All other aspects can be channeled into a consideration of this one.

Consider an individual, firm or household confronted with a set of prices for goods of all kinds, namely, factors, commodities and securities.¹⁶ The individual will decide to buy or sell each good in given amounts during such a time period. Mathematically, if prices are p_i , $i = 1, 2, \dots, n$ and if the quantities he plans to buy or sell are s_i , where a positive s_i denotes a sale and a negative s_i denotes a purchase, his surplus of sales is $x = p_1s_1 + \dots + p_ns_n$. He plans to accumulate a given amount of cash x which is his individual excess demand for cash balances. If his excess demand for cash balances is negative, it means that he finds prevailing prices so attractive that he plans to lower his cash balances over the period.

Since the individual's excess demand for cash balances refers to his plans and not to his actions, there is no difficulty in passing from individual to aggregate excess demand for cash balances of the entire economy. The sum of individual excess demands is the aggregate excess demand for cash balances, which is also the total quantity of money which the whole community would like to accumulate during the coming time period if it could.

Aggregate excess demand for cash balances can also be obtained by adding first by commodities instead of by individuals. For an individual good, each person has a net planned purchase or sale, possibly zero in size. Add all these together and we have excess supply of the good, that is, the excess of planned sales over total planned purchases in the community for that good. Again the excess supply may

¹⁶ Goods include all valuable objects except cash. Commodities are goods other than securities. *Op. cit.*, p. 3.

be negative. If we add the money value of these excess supplies over all goods we obtain once more aggregate excess demand for cash balances.

It will be noted that excess demand for cash balances has both a monetary and real connotation; it is defined in terms either of monetary plans or of real plans. This dualism makes ready discussion of real or monetary developments possible. The excess demand for cash balances is also an aggregate of individual plans, so that transition from micro- to macro-statements is singularly easy. Lange has created a device which can be used to discuss the widest variety of economic problems.

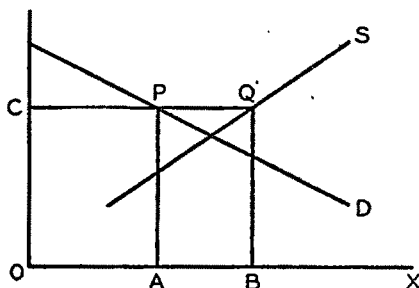


FIGURE 1

Lange identifies unemployment with excess demand for cash balances. This is a central point of his analysis. The excess demand for cash balances represents the desires of the community to obtain additional cash in a time period and also equals the sum of excess supplies of commodities. These excess supplies, the excesses of planned sales, define unemployment. Diagrammatically Lange represents excess supply for a particular good in the economy as the quantity $AB = PQ$ in a supply and demand curve chart as shown in Figure 1. This quantity AB represents the surplus of planned sales at the price OC in the whole economy for the particular good. Total unemployment is obtained by adding the values of these quantities for all goods ($\sum OC \times AB$). Some of the excess supplies may be negative, but if the summation is positive, there is unemployment, while a negative excess supply represents an inflationary situation.

What determines excess demand for cash balances? To answer this, Lange considers a basic simple economy of perfect competition, static expectations, and absence of international trade, where the determinants of demand for money can be readily stated. Static expectations mean that each member of the economy acts on the basis that present ruling prices will be future ruling prices. The first thing to notice, Lange argues, is that under these conditions, relative prices are of

secondary importance in the problem of unemployment.¹⁷ The level of excess demand for cash balances is not influenced by relative prices except in so far as they operate through the monetary effect. But, though employment is not affected by relative price changes, it may be affected by the price level itself. For as prices fall, the effective total amount of money in the system is likely to increase and this factor does bear on the employment situation.

It thus turns out that in this initial situation the question of employment depends only on the amount of money in the system. Since relative price questions are secondary in importance, attention can be confined to proportional changes in all prices.¹⁸ In the author's words, the operations of a competitive economy of price flexibility will lead to full employment if, and only if, "a proportional fall in all prices in the economy (interest rates being kept constant and bond prices, consequently, being excepted from the general fall) would reduce the excess demand for cash balances to such an extent that substitution of goods for money takes place."¹⁹ This condition, if satisfied, is labelled a positive monetary effect (of a general price change) by Lange. If a price change makes matters worse, the monetary effect is negative, and if it has no effect, the monetary effect is neutral.

Furthermore, Lange says, in the simple basic economy under analysis, the monetary effect is positive. The law of diminishing returns applies to cash balances. The more one has in terms of its buying power, the more one will spend. Consequently, declines in prices (the real quantity of money increasing) encourages greater expenditures, and hence produces a lower excess demand for cash balances, and less unemployment. In this pleasant pastoral scene all goes well. The conclusion of traditional economics that flexible prices will guarantee full employment is correct, even though its argument was false. Little Peter, the positive monetary effect, can do the job.

¹⁷ This is a crucial point and one on which it is difficult to be absolutely sure about Lange's intention. Since Lange introduces relative prices as a part of his original data and since he admits that with a positive monetary effect, relative price adjustments do affect excess demand for cash balances, it may appear that the statement of the text is false. However, it must be noted that the monetary effect is defined in terms of proportional change in all prices and that the effect of relative prices is inoperative *unless* a positive monetary effect is in operation. The dependence of the Lange argument on homogeneous systems and the association of that argument with the Cambridge cash balance theory also support the statement made above. See Lange, *op. cit.*, pp. 16, 17, 99.

¹⁸ Special attention has to be paid to fixed dollar income obligations, notably to bonds. The fixity of their dollar value keeps their prices tied very closely to money. Thus, a change in all prices really means a change in all prices except of bonds. A decline in prices automatically makes bonds more attractive relative to money, since their real purchasing power increases. Thus bonds and commodities fall equally relative to cash if bond prices remain constant and all other prices fall proportionally. *Op. cit.*, p. 15.

¹⁹ *Ibid.*, p. 7.

But now the scene changes. Into the pastoral scene are introduced the wolves of elastic price expectations, imperfect competition, propensity to consume, capital accumulation, technological uncertainty and factor-saving innovations. How will little Peter fare among these wolves? We soon learn. The only question is which wolf will eat him first.

The bearing of these determinants, elastic price expectations, etc., on the excess demand for cash balances is intricate in detail, but easy to see in broad outline. Elasticity of expectations determines how any change in current prices affects expected future prices. Highly elastic expectations would mean that any changes in prices would be interpreted as significant of further changes and lead to a strong movement toward or away from cash, depending on whether the change in price was down or up. Low propensity to consume makes for an accumulation of cash unless a suitably favorable borrowing and lending process develops to fulfill the desire for saving. Uncertainty acts to make the future bleak and all future transactions unfavorable. It thus encourages the holding of cash, since cash less than any other form of wealth commits the holder to future transactions.

Oligopoly is a little different. Its acts by price-fixing agreement and thus thwarts the effects of price flexibility before it can operate. Factor-saving innovations lower the demand for factors, thus increasing the gap between demand and supply for factors. Capital accumulation exhausts the profitable outlets for investment, thus lowering the demand for cash and contributing directly to the excess demand for cash balances. Such are the main elements of the argument. International trade and policy problems are also considered by Lange, but these are not essential parts of the argument.

The problems which Lange's analysis raises fall naturally into two parts, one the question whether excess demand for cash balances suitably defines unemployment, the second the question whether the alleged determinants satisfactorily define excess demand for cash balances.²⁰

Consider the first of these. Just why, we may ask, does a gap between demand and supply measure unemployment? It is by no means obvious that such a gap defines unemployment, since that gap applies not to events but to plans of economic units. Without further specification of what happens in a disequilibrium situation as distinguished from what people plan to do, it is impossible to know what disequilibrium involves. The *ex ante* definition tells us that excess supply

²⁰ These criticisms concern mainly the consistency of the structure and its relation to traditional thought. Broader methodological questions have been raised by Milton Friedman, in this *Review*, Vol. XXXVI, No. 4 (Sept., 1946), pp. 612-31.

exists in terms of a given price situation, but lacking information as to what happens as regards purchases, sales, and prices, how are we to know what unemployment is *ex post*?

We can see why excess supply might be considered as defining unemployment if we consider a labor market in which the supply curve is intersected by the demand curve at a price below the existing price. The unemployment occurs if the actual amount sold is that demanded at the existing price. The excess supply is idle in fact and hence defines unemployment. The buying parts of plans are carried out, the selling parts are not. One can infer that the same applies to other markets than labor and that unemployment is defined by excess supply generally, because the prevailing price is also the ruling price in which the amount sold is determined by demanders' willingness to buy at that price. In other words, it has been implied that we are dealing with cases of administered prices. Competition is of that particular kind where price adjusts more slowly than quantity.²¹ Disequilibrium culminates not in price adjustments in the first instance, but in quantity sold disappointments. This is implied by Lange, since a contrary interpretation that price adjusts more quickly and that the quantity sold is that which sellers want to sell would not define unemployment. It is only if sellers keep their goods and buyers keep their money that excess demand for cash balances results in unemployment.

The gap between supply and demand at a disequilibrium price can be used as a definition or measure of unemployment only in terms of a particular market analysis. But this market analysis is not supplied. We are given in fact no description of how excess demand for cash balances is carried into unemployment but left to conclude vaguely that because cash is in demand in time of unemployment, it is a sufficient explanation thereof. It cannot be denied that in the real world, periods of unemployment are periods of desire for cash, but that the relation is causal is by no means clear. By neglecting the market mechanism, Lange leaves us with a very incomplete analysis.

There appears, in fact, to be some contradiction in Lange as regards the market mechanism. In his discussion of imperfect competition, Lange suggests that he was not thinking in terms of administered prices under perfect competition along the lines of the above interpretation. He is careful to distinguish imperfect competition from perfect competition on the grounds that supply always equals demand for monopolies whereas under perfect competition it does not. In other

²¹ Whether or not administered prices can fall under the heading of perfect competition is a definitional matter not readily settled. Lange does not define perfect competition and does not face the problem.

words, monopolies meet the fact of excess supply by curtailing sales, in short, by administering its prices. Witness the following:

The removal of the assumption of perfect competition thus introduces the following modification into the picture developed in the preceding chapters. (1) There is no excess demand or excess supply in monopolistic or monopsonistic markets. Disequilibrium in such markets consists in the monopolists selling or the monopsonists buying a quantity different from that which maximizes their profit.²²

Under monopoly we are to picture supply differing from demand at a disequilibrium price maintained until entrepreneurs see fit to adjust the price to more profitable levels. But it is exactly this interpretation of perfect competition that allowed us to identify unemployment with excess supply. So far as market processes are concerned, there seems to be no difference between monopoly and competition, though the contrary is alleged.

We come now to the second basic question, whether the alleged determinants, static expectations, and perfect competition satisfactorily define excess demand for cash balances. The fact is that static expectations are not only insufficient to determine excess demand for cash balances, but are inconsistent with it. The same problem arises as arose in Marshall. If individuals really believe that present prices will continue, they will be able to calculate profits for each line of activity. They will then wish to convert completely into cash or (in most situations) completely out of cash, since some profitable ventures will surely exist in any given disequilibrium price structure. Thus excess demand for cash would be zero. A determinate level of excess demand for cash balances is in fact inconsistent with the initial assumption with which it is discussed.

While this is the most striking instance, other lacks of basic analysis of the market process are evident. For example, what is the relation of business income to personal expenditures, and how are dividend payments fitted into a supply and demand statement? Why are not gaps between supply and demand themselves determinants of plans as well as definers of unemployment? Such questions are not answered. There is no adequate set of assumptions regarding economic behavior, and hence no adequate analysis of the economic process. Except for the recognition of the importance of speculative behavior and of money, no progress is evident over Marshall, and there are evidences of retrogression.

If the basic apparatus of Lange's analysis is accepted, then the formal properties of the effects of elastic price expectations, uncertainty,

²² *Op. cit.*, p. 43.

propensity to consume, etc., on excess demand for cash balances follow in logical fashion in the manner in which Lange has presented them. But, though the logic is correct, some peculiarities about the presentation are worthy of mention. As Lange sees it, curtailment of demand, expansion of supply, and failure of price adjustments to set off the action of the monetary effect will operate to expand excess demand for cash balances. He is thus in a position to emphasize any one of these three factors that he chooses in a kind of *ceteris paribus* arrangement of his own. He is under no obligation to state all possibilities. In some instances he is far from complete. We hear nothing, for example, about how decreased supply can reduce excess demand for cash balances, a result which might well be forthcoming from uncertainty and such influences. The most interesting instance, however, occurs where Lange steps over into the field of classical thought to discuss matters of relative proportions of factors, as he does in connection with innovations and also with capital accumulation. It is interesting to compare the two arguments.

The exhaustion of investment opportunities which Lange feels has occurred in modern economic life can be explained in classical terms. Capital goods are subject to diminishing returns, and every increment to their stock reduces their worth. Witness ". . . an increase in the stock of (some or all) investment goods that is not accompanied by a proportional increase in the supply of primary factors leads to a decline in the marginal physical productivity of the former."²³ This is an argument based on classical theory of proportions of factors. The higher the proportions of capital to factors in the production process, the lower the marginal productivity of capital. This means that interest rates fall since the demand for funds depends on the productivity of capital. In the classical treatment of this point, the argument develops that as the proportion of capital increases, the marginal productivity of labor rises, and wages rise. Lange does not follow the classical argument this far, however; rather he emphasizes that as the demand for capital falls, there is unemployment and a decline in wages. After this the results depend on the nature of the monetary effect.

Lange has another argument based on proportions of factors in connection with factor-saving innovations. An important case is that fewer primary factors (labor) may be required as the result of innovation. In such case the effect of the innovation is to create a relative excess of primary factors, thus throwing people out of work. Unemployment results, hence falling prices, with good or evil resulting depending upon the nature of the monetary effect. The argument is just like the one regarding capital accumulation. Here the factor-saving innovation

²³ *Op. cit.*, p. 67.

creates excess supply of laborers, whereas capital accumulation created a shortage of laborers. It would seem that the factor-saving innovation is just the thing that is needed to prevent the excess proportion of capital. The failure of the "supply of primary factors" which Lange speaks of in the capital accumulation argument seems to find a friend in factor-saving innovations. Lange, however, notes no connection between the two arguments. In one case the accumulation gave rise to an excess of capital which stopped investment and caused unemployment. In the other case, the innovation gives rise to excess labor supply and causes unemployment. Either way the result is bad in this diabolical world.

We conclude that the basic problems unanswered in Marshallian economics have not been answered by Lange. What are the basic determinants of economic behavior, and what are their implications to economic life? On these questions little light is shed. An effort has been made to state behavior in terms of the propensity to accumulate cash, but the manner in which this propensity is related to operations of the economic world has not been made clear.

VII

Lange has asserted (developing a theme of Keynes) that classical economics is inherently incapable of treating problems of trade fluctuations and monetary developments. He purports to develop a theory of these problems adequate to reveal the inherent classical constraint. An examination of Lange's work does not support this claim. An examination of parts of classical doctrine does not reveal such inherent constraint.

In Marshall's work we see an effort to state a general economic theory involving all elements of economic life. Many of the elements of a sound dynamic and monetary economics are included. The trouble is that the description is vague and incomplete at many points. The effort, however, is obviously to see how the economic system works in non-equilibrium situations. There seems to be no obstacle to completing this system except the intellectual labor required.

The seeming divorce of classical and monetary thought can be seen in works where the back is turned on uncertainty, and equilibrium becomes the subject of discussion. In Knight this is done by design. In Hicks it appears to happen unknown to the author. The essential factor preventing these works from dealing adequately with problems of unemployment is the lack of definitive statement of behavior under uncertainty. This rather than partial or general equilibrium questions is the crucial matter.

Lange's work intended as an analysis of the limitations of classical

thought ends as tribute to its usefulness in monetary analysis. Its basic failure is inherited from Marshall, a failure to state the behavioristic assumptions definitely. It is, however, a poorer work than Marshall's in that the essential lacks are covered with analytical superstructure. Classical methods of market analysis are used extensively although with some inconsistency of argument.

No natural barrier between classical and monetary thought exists. On the contrary, the different approaches are supplementary. Classical thought contains and requires monetary notions. Monetary economics requires individual market analysis. The points of departure of the different systems are perhaps different, but there is no reason to believe that when the best monetary system and the best classical system have been written they will differ in subject matter or conclusion.

MARKET STRUCTURE AND MONOPOLY POWER¹

By ANDREAS G. PAPANDREOU*

I

The increasing tempo of successful prosecutions of violators of our antitrust legislation is once more bringing to our attention the relationship between market or industry types and monopoly power. This may well provide a badly needed opportunity for a general reconsideration, extension and modification of some generally held concepts regarding this relationship, in the light of recent theoretical contributions.² Among the problems which call for serious study are those which relate to the unbridged gap between the economic and the legal concepts of monopoly and competition. Pioneer work has already been done in this area,³ but it does not go beyond the initial stage of breaking the path for further research.

One important reason for this gap between the legal and economic concepts of monopoly is their difference in emphasis. Whereas the lawyer deals with competitive relationships, the economist is primarily interested in the allocation mechanism and welfare economics. To put it in somewhat different terms, the economist is primarily concerned with the power relationships between sellers *and* buyers, and the manner in which these relationships may affect the operation of the allocation mechanism and interfere with the "perfectness" of competition; the lawyer, on the other hand, is primarily concerned with the power relationships between sellers *or* between buyers, and the manner in which these relationships may affect the "freedom" of competition. Both approaches are of course legitimate. We must recognize, in fact, that there are many ways of looking at a firm's power within a given market structure. Despite the fact that all relate to a firm's position (or behavior) in the market, they focus on different aspects of the complex set of relationships between sellers, between buyers, and between sellers and

* The author is associate professor of economics at the University of Minnesota.

¹ The paper is restricted to the study of monopoly power in selling. It should not be difficult to extend the conclusions reached in this paper to the study of monopoly power in buying.

² See Joseph Schumpeter, *Capitalism, Socialism and Democracy* (New York, 1942), pp. 81-106.

³ See E. S. Mason, "Monopoly in Law and Economics," *The Yale Law Journal*, Vol. 47 (1937), pp. 34-39, reprinted in *Readings in the Social Control of Industry* (Philadelphia, 1942), pp. 25-47.

buyers, which are present in every market structure. We may attempt to define and measure a firm's power over the buyers of its products, or over its competitors in selling, or over its competitors in buying, or over the economy as a whole. In all these cases we are dealing with the same set of structural facts, but isolate some particular aspect of the set for definition and measurement.

Professor Abba P. Lerner's⁴ definition and measure of monopoly power is typical of the economist's approach to the problem. According to Professor Lerner "... the mark of the absence of monopoly is the equality of price or *average* receipts to *marginal* costs, . . ."⁵ His approach runs in terms of welfare economics, and his index of monopoly power, Price—Marginal Cost/Price, is most appropriate in the analysis of the effects of monopoly on the allocation of resources. Attempts to use this index of monopoly power in dealing with problems not involving the allocation mechanism have not been particularly successful.⁶

Measures focusing on different aspects of monopoly power have been suggested by economists, but none has been as popular with the profession as the Lerner index. A measure of supernormal profits has been proposed by Professor Bain.⁷ It is based on the discrepancy between price and average cost. Such a discrepancy, Professor Bain claims, "is significant because of its influence directly on the functional distribution of income, and indirectly on the propensity to consume, the level of employment, etc."⁸ This measure, however, must be used very carefully. It does not pertain to monopoly power *stricto sensu*, but "lumps together the effects of monopoly, monopsony, limit to entry, and . . . also to some extent, the effects of frictional forces in a competitive system, like ignorance and special degrees of uncertainty."⁹

⁴ A. P. Lerner, "The Concept of Monopoly and the Measurement of Monopoly Power," *Rev. Econ. Stud.*, Vol. 1 (1934), pp. 157-75.

⁵ *Ibid.*, p. 161.

⁶ See M. Kalecki, "The Determinants of the Distribution of the National Income," *Econometrica*, Vol. 6 (1938), pp. 97-112; R. H. Whitman, "A Note on the Concept of 'Degree of Monopoly,'" *Econ. Jour.*, Vol. LI (1941), pp. 261-69, and M. Kalecki, "'Degree of Monopoly'—A Comment," *Econ. Jour.*, Vol. LII (1942), pp. 121-27. For an attempt to measure changes in the degree of monopoly power, along the lines suggested by Lerner, see J. T. Dunlop, "Price Flexibility and the Degree of Monopoly," *Quart. Jour. Econ.*, Vol. LIII (1939), pp. 522-34, and R. S. Tucker, "The Degree of Monopoly," *Quart. Jour. Econ.*, Vol. LIV (1940), pp. 167-69.

⁷ J. S. Bain, "The Profit Rate as a Measure of Monopoly Power," *Quart. Jour. Econ.*, Vol. LV (1941), pp. 271-93.

⁸ J. S. Bain, "Measurements of the Degree of Monopoly: a Note," *Economica*, (new series) Vol. 10 (1943), p. 66. The reader should keep in mind that Professor Bain rectifies average cost "to a certain opportunity level," and that his "profit rate" is derived from the "accounting profit rate" by certain estimates as to the market value of capital assets which would be held under competitive conditions.

⁹ K. W. Rothchild, "A Further Note on the Degree of Monopoly," *Economica*, (new series) Vol. 10 (1943), p. 69.

Another, and one which is more significant from the point of view of this paper, is the measure suggested by Mr. Rothchild.¹⁰ The degree of monopoly power, according to this author, is equal to the ratio of the slope of the "species" demand curve to the slope of the "genus" demand curve.¹¹ This measure focuses on the position of the firm vis-à-vis its competitors in the market, and, therefore, comes closer to the concepts of monopoly present in most industry studies, court decisions, and government reports, than either the Bain or the Lerner measures. Recently a most interesting measure, which emphasizes similar aspects of monopoly power, has been proposed by Professor Morgan.¹² The Morgan measure consists of a coefficient of *insulation* of the firm from competition, which is expressed as an increasing function of the firm's relative size, and as a decreasing function of the substitutability of the products of its competitors for the firm's product. This coefficient is clearly directed toward defining and measuring a firm's power vis-à-vis its competitors.

My objective in this paper consists in developing a comprehensive set of concepts dealing with monopoly power in terms of competitive relationships, and further, in associating types of market structure with types of monopoly power. The formulation of these concepts will be carried out in a manner which is intended to narrow the gap between legal and economic concepts. I should like to state emphatically, however, that the concepts developed in this paper in no way displace concepts already in use; rather they are meant to supplement them by shifting the emphasis to an aspect of monopoly power which has not been treated sufficiently by economic theorists.

II

The very nature of the purpose of this paper calls for an unambiguous definition of the concept of industry. Before the advent of the theory of monopolistic or imperfect competition, the concept of a "group" of firms competing in the sale of a "commodity" was considered self-explanatory.¹³ The pre-"monopolistic competition" concept of industry

¹⁰ K. W. Rothchild, "The Degree of Monopoly," *Economica*, (new series) Vol. 9 (1942), pp. 21-39.

¹¹ The "species" and "genus" demand curves are synonymous with Professor Chamberlin's dd' and DD' curves. dd' is the sales curve confronting the firm on the assumption that *all* other prices are given. DD' is the sales curve confronting the firm on the assumption that the prices of the firm's competitors are changed in the same or some other systematic way as the firm's in question.

¹² Theodore Morgan, "A Measure of Monopoly in Selling," *Quart. Jour. Econ.*, Vol. LX (1946), pp. 461-63.

¹³ This should not be interpreted to mean that economists never took into account the intricacies of the concept. See, for instance, Alfred Marshall's *Principles of Economics* (8th ed., London, 1920), p. 100, n. 1.

referred essentially to a group of firms selling a "physically" identical product. Since the advent in 1933 of the theory of monopolistic competition,¹⁴ however, the concept has been subjected to thorough scrutiny. Both Mrs. Robinson and Professor Chamberlin use the concept of "group" or "industry" with careful qualifications and explicit skepticism. For Mrs. Robinson "an industry is any group of firms producing a single commodity. The correspondence of such an industry to the industries of the real world is not perhaps very close. But in some cases, where a commodity in the real world is bounded on all sides by a marked gap between itself and its closest substitutes, the real-world firms producing this real-world commodity will conform to the definition of an industry sufficiently closely to make the discussion of industries in this technical sense of some interest."¹⁵ For Professor Chamberlin the "group" concept is merely an analytical tool which derives its content from the problem at hand. "Almost any general class of products divides itself into sub-classes. . . . Evidently, a group may be large or small, depending upon the degree of generality given to the classification, but even if it is large, if subgroups exist, this fact cannot be disregarded."¹⁶ Elsewhere, he arrives at the conclusion that "one emerges from any attempt to classify industries . . . with a feeling that it is all exceedingly arbitrary. The 'common sense' definitions of industries in terms of which practical problems are likely to be studied seem to be based much more upon technological criteria than upon the possibility of market substitution."¹⁷

Kaldor considers the "group" definable only from the point of view of an individual seller.¹⁸ The "industry" of firm i , then, overlaps but is not necessarily identical with the "industry" of a competing firm j , and it becomes conceivable that there may be as many "industries" as there are firms. For Dr. Triffin the industry concept is obsolete for strictly theoretical purposes, although it may be of some use for empirical studies.¹⁹

The author fully concurs with the general skepticism that envelops the concept of a "group" or "industry." It must be admitted that the concept is not universally useful, and that it may, in fact, hamper theo-

¹⁴ E. H. Chamberlin, *The Theory of Monopolistic Competition* (6th ed., Cambridge, 1948), and Joan Robinson, *The Economics of Imperfect Competition* (London, 1933).

¹⁵ *Ibid.*, p. 17.

¹⁶ Chamberlin, *op. cit.*, pp. 102-03.

¹⁷ *Ibid.*, p. 202, n. 1.

¹⁸ N. Kaldor, "Mrs. Robinson's 'Economics of Imperfect Competition,'" *Economica* (new series), Vol. 1 (1934), pp. 335-41, and "Market Imperfection and Excess Capacity," *Economica* (new series), Vol. 2 (1935), pp. 33-50.

¹⁹ Robert Triffin, *Monopolistic Competition and General Equilibrium Theory* (Cambridge, 1940), p. 88 and elsewhere.

retical formulations of the Walrasian variety. The concept may, however, be useful in theoretical as well as in empirical-statistical studies whose scope is substantially narrower than the whole economy. The grouping of firms for purposes of statistical description or behavior analysis is fully justified, provided that the definition of the "group" is meaningful for the problem at hand and consistent throughout the study or analysis.

The concept of a group of firms selling substitute products is crucial for the purposes of this paper. There remains the question, however, whether we should use the (Kaldor) concept of a *firm-centered* industry or the traditional concept of a *group-centered* industry. The firm-centered industry concept is more elegant. *Industry from the point of view of firm i may be defined to include all firms which compete in selling with firm i .*²⁰ In this paper, nevertheless, the concept of a group-centered industry will be adopted. Despite its nebulous character, it corresponds more closely to the "industry" of empirical-statistical studies than does the concept of a firm centered industry.²¹ *Our group-centered industry concept is defined to include all the firms which compete in selling with one another.*²² Two observations are in order in connection with this definition. First, it must be recognized that the boundary of an industry, as it is defined in this paper, is "fuzzy." Some firms within the group may compete with firms outside of the group; they may, in fact, belong to other industries as well as to the industry under consideration. In order to simplify the argument, we will assume in what follows that no industry or market overlapping is present. Removal of this assumption would not destroy any of the results; it would merely make their formulation somewhat more complex. Secondly, an industry, as it is defined in this paper, is much more inclusive than is appropriate for the purposes of most investigators and analysts. As we approach concrete situations we may find it useful to raise the value of the cross-elasticity coefficient which, for our given purposes, makes two firms significantly competitive. This procedure is perfectly legitimate, provided it is meaningful for the situation or problem under study.²³

²⁰ Two firms i and j may be said to compete in selling if the cross-elasticity of demand for the product of firm i in terms of the price of the product of firm j is greater than zero.

²¹ The selection of the group-centered industry concept for use in this paper is due in part to an attempt to maintain a certain measure of comparability between the concepts generally held and the conclusions reached in this paper.

²² This group must in fact fulfill two conditions: (a) any two firms in the group must compete, and (b) no firm must be left out of the group if it competes with all the firms in it.

²³ For further discussion of the concept of industry see J. S. Bain, *Economics of the Pacific Coast Petroleum Industry* (Berkeley, 1944), Part I, pp. 10-11, and *Pricing, Distribution and Employment* (New York, 1948), pp. 10-60; G. Stigler, *The Theory of Price* (New York, 1946), pp. 280-83; F. Machlup, "Competition, Pliopoly and Profit, Part I," *Economica* (new series), Vol. 9 (1942), pp. 1-23, but especially pp. 5-7.

III

The purpose of the investigator or analyst determines the selection of criteria for the classification of market or industry types, in the same manner that it determines the content of his industry concept. For an analysis of firm behavior the *differentia specifica* of market or industry types is to be found in the character of the competitive relationships among the firms in an industry or market. The widely held classification of industry types in terms of *numbers* and *product-differentiation*²⁴ is not fully satisfactory from this point of view. It reflects *indirectly* only the character of relationships among the firms comprising the industry. *How large* must the number of firms in an industry be in order that it may fall in the category of a large-number-of-firms industry? The answer is simple, but it does not run in terms of numbers. The number must be so large that firms cannot influence one another's volume of sales by cutting price. Under such conditions firms behave without taking into account the underlying interdependence of their behavior. As Professor Machlup has put it, "the criterion of polypoly is not simply 'large numbers,' but it is, instead, a state of mind and a type of behaviour which is usually associated with large numbers of sellers in a market. . . . Thus, a subjective habit or disposition of certain individuals is the essence of the concept of polypoly."²⁵ One might add that numbers and product-differentiation necessarily restrict the classification of industry types to the five well-known limiting cases. They lack the flexibility which is necessary in dealing with real-world situations.

Dr. Triffin's concepts of *circularity* and *atomicity* come much closer to the heart of the matter than do the concepts of *small* and *large* numbers.²⁶ The essence of circular interdependence between two firms is the "boomerang-like" character of their behavior vis-à-vis one another; and the essence of atomistic interdependence between two firms is the absence of this "boomerang-like" character from their behavior vis-à-vis one another. This is clearly a much more effective criterion than numbers for the classification of market or industry types. It does not merely come closer to the heart of the matter; it is also capable of describing complex real-world situations.

Dr. Triffin's definition and use of these concepts, however, is not particularly satisfactory. Not only does he offer two different definitions

²⁴ F. Machlup, "Monopoly and Competition: A Classification of Market Positions," *Am. Econ. Rev.*, Vol. XXVII (1937), pp. 445-51. For a somewhat different, more extended treatment, see J. S. Bain, "Market Classification in Modern Price Theory," *Quart. Jour. Econ.*, Vol. LVI (1942), pp. 560-74.

²⁵ F. Machlup, "Competition, Pliopoly and Profit, Part I," *Economica* (new series) Vol. 9 (1942), p. 2.

²⁶ R. Triffin, *op. cit.*, pp. 104, 115-16, 143.

of circularity,²⁷ but he does not succeed in differentiating clearly between the two pairs of concepts of *homogeneity-heterogeneity* and *atomistic-circularity*. It is indeed impossible to define pure competition (Dr. Triffin's atomistic homeopoly) in terms of cross-elasticity of demand in a manner which keeps it distinct from its antithesis, *i.e.*, pure monopoly.²⁸ According to Dr. Triffin's classification, if firm *i* is a pure monopolist, the cross-elasticity of demand for its product in terms of the price of the product of any other firm *j* becomes zero; if firm *i* is in pure competition with firm *j*, the cross-elasticity of demand for the product of firm *i* in terms of the price of the product of firm *j* becomes infinite. Yet it should be obvious that, under conditions of pure competition, it is impossible for firm *j* to affect the *actual* volume of firm *i*'s sales. If it could do so, firm *i* should also be considered capable of affecting the sales of firm *j*, and the relationship would indeed be circular rather than atomistic, which contradicts our assumption that the situation is purely competitive. In a purely competitive situation, the cross-elasticity of demand for the product of firm *i* in terms of the price of the product of firm *j* becomes zero, *in terms of actual or realizable changes in the volume of firm i's sales*. On these grounds, however, we should consider every pure competitor as being a pure monopolist! It seems impossible, therefore, to distinguish between pure competition and pure monopoly on the basis of Dr. Triffin's criterion.

A distinction between two related but different concepts seems to be needed if we are to salvage the concept of cross-elasticity of demand for purposes of market classification and measurement of monopoly power in terms of competitive relationships. We should restrict the coefficient of cross-elasticity of demand to *potential* changes in the volume of a firm's sales, and coin a new coefficient to associate *realizable* relative changes in the volume of a firm's sales with relative changes in the prices of the products of other firms. The cross-elasticity coefficient measures potential changes in the sense that it depicts only the readiness of *de-*

²⁷ On page 104 he defines the relationship between two firms *i* and *j* as circular, if the two partial derivatives

$$\frac{p_j \delta q_i}{q_i \delta p_j} \quad \text{and} \quad \frac{q_i \delta p_j}{p_j \delta q_i}$$

are both greater than zero. (*q* refers to quantity sold and *p* to price.) On pages 115-16, however, he defines the relationship between firms *i* and *j* as circular, if

$$\frac{\delta \pi_i}{\delta p_j} \quad \text{and} \quad \frac{\delta^2 \pi_i}{\delta p_j \delta p_i}$$

are both positive. (π stands for profits.) For a critical review of Dr. Triffin's concepts see S. Weintraub, "The Classification of Market Positions: Comment," *Quart. Jour. Econ.*, Vol. LVI (1942), pp. 666-73, and E. F. Beach, "Triffin's Classification of Market Positions," *Canadian Jour. Econ. and Pol. Sci.*, Vol. IX (1943), pp. 69-74.

²⁸ See E. F. Beach, *op. cit.*, p. 71, and Morgan, *op. cit.*, p. 461, n. 3.

mand units to shift from one seller to another, following a price change. The new coefficient should take into account the capacity of the firm which attracts demand units by cutting price to match them with *supply units*. This new coefficient may be called the *coefficient of penetration*, inasmuch as it measures the capacity of a firm to cut into the volume of another firm's sales by reducing price. In order to define clearly the meaning of this new coefficient, and to indicate its relationship to the coefficient of cross-elasticity we must resort to symbolic presentation.

Let $q_i = f_i(p_i, p_j, P_{N''})$ be a simplified form²⁹ of the demand function for the product of firm i . q_i stands for the volume of product of firm i demanded, p_i for the price of the product of firm i , p_j for the price of the product of firm j , and $P_{N''}$ for the "price" of all the other firms in the industry.³⁰ The *cross-elasticity of demand* for the product of firm i in terms of the price of the product of firm j , then, is

$$N_{q_i p_j} = \frac{p_j}{q_i} \cdot \frac{\partial}{\partial p_j} f_i(p_i, p_j, P_{N''}).$$

The *coefficient of penetration* of firm j into the market of firm i may be defined as

$$R_{q_i p_j} = K_j \left\{ \frac{p_j}{q_i} \cdot \frac{\partial}{\partial p_j} f_i(p_i, p_j, P_{N''}) \right\} = K_j N_{q_i p_j}$$

where K_j is a factor which may assume any value between zero and unity, including both, ($1 \geq K_j \geq 0$).

K_j is, in fact, an index of the capacity of firm j to match with supply units the demand units which stand ready to shift to it following its price change.³¹ It will be readily admitted that this concept of an index of the capacity to match (with supply units) increases in quantity demanded following a price cut, is most awkward. It is nevertheless a very important tool in the study of competitive relationships. It may be thought of as a function of the price elasticity of demand for the product of the price-cutting firm, and of the elasticity of an output-outlay function. Symbolically:

$$K_j = \phi_j \left(\frac{p_j}{q_j} \cdot \frac{\partial}{\partial p_j} f_j(p_j, P_{N''}), \frac{z_j}{q_j} \cdot \frac{d}{dz_j} F_j(z_j) \right).$$

²⁹ The function is simplified because it leaves out all independent variables other than prices, and also because all prices (other than the prices of i and j) have been grouped into a single independent variable $P_{N''}$.

³⁰ $P_{N''}$ may be taken as the weighted average price of all the firms in the industry (other than i or j), on the assumption of an unchanging price-structure.

³¹ All the measures refer to price cuts rather than price changes. Since we are formulating them in terms of instantaneous rates of change, however, the distinction loses its importance.

where $q_j = f_j(p_i, p_j, P_{N''})$ is a simplified form of the demand function for the product of firm j , and $q_i = F_j(z_j)$ is the output-outlay function of firm j .³² The price elasticity of demand for the product of firm j is a measure of the responsiveness of the quantity demanded to changes in its price, whereas the elasticity of the output-outlay function is a measure of the firm's capacity to expand output to match the increases in the quantity demanded following a price cut. These two elasticities determine between them the value of K_j .³³ Although we do not know much about the shape of ϕ , we do know that k is an increasing function of the elasticity of the output-outlay function and a decreasing function of the elasticity of demand.

It becomes possible now to define certain limiting cases of market or industry types, in terms of the coefficient of cross-elasticity of demand and the coefficient of penetration. I will restrict myself to the discussion of the well-known *symmetrical* cases, in order to avoid making the argument unduly complex. This classification of market structures will run in terms of homogeneity *versus* heterogeneity,³⁴ and atomicity *versus* circularity in competitive relationships. Atomicity and circularity must be defined before we can proceed: *Two firms are atomistically competitive if either one is incapable of penetrating the other's market. Two firms are circularly competitive if both are capable of penetrating each other's market.*³⁵ Since we restrict the discussion to symmetrical cases, the situation in which firm j is able to penetrate firm i 's market, but firm i is incapable of penetrating firm j 's market, is automatically excluded. We may now proceed with the classification:

(a) *Atomistic Homeopoly:*

It may be defined as the market structure of an industry in which any two firms i and j are homogeneously and atomistically competitive. Symbolically:

³² The output-outlay function is merely the *inverse* of the total cost function.

³³ There remains, of course, the very thorny question of the nature of this output-outlay function. Both $Nq_i p_i$ and $Rq_i p_i$ involve instantaneous relative rates of change. So does $z_j/q_i \cdot dq_i/dz_j$. But is $F_j(z_j)$ a "market period," a "short-run" or a "long-run" function? The demand functions involved must needs refer to an instant of time. They incorporate the structure of interdependencies existing at an instant of time. But if $F_j(z_j)$ were to refer to the "market period," its elasticity with respect to outlay would be nil. A "short-run" output-outlay function (involving the usual assumptions of fixed plant and equipment) seems to make more sense for the problem at hand. This discrepancy between the time-dimension of the demand functions and the time-dimension of the output-outlay function is not damaging, however, to this purely abstract formulation.

³⁴ Two firms i and j may be said to compete homogeneously if $Nq_i p_i = \infty$; they compete heterogeneously if $\infty > Nq_i p_i > 0$.

³⁵ It must be emphasized that the definitions given to atomicity and circularity in this paper differ from those of Dr. Triffin.

$$N_{q_i p_j} = \infty$$

$$R_{q_i p_j} = 0$$

$$R_{q_j p_i} = 0.$$

(b) *Atomistic Heteropoly:*

It may be defined as the market structure of an industry in which *any* two firms *i* and *j* are heterogeneously and atomistically competitive. Symbolically:

$$\infty > N_{q_i p_j} > 0$$

$$R_{q_i p_j} = 0$$

$$R_{q_j p_i} = 0.$$

(c) *Circular Homeopoly:*

It may be defined as the market structure of an industry in which *any* two firms *i* and *j* are homogeneously and circularly competitive. Symbolically:

$$N_{q_i p_j} = \infty$$

$$R_{q_i p_j} > 0$$

$$R_{q_j p_i} > 0.$$

(d) *Circular Heteropoly:*

It may be defined as the market structure of an industry in which *any* two firms *i* and *j* are heterogeneously and circularly competitive. Symbolically:

$$\infty > N_{q_i p_i} > 0$$

$$R_{q_i p_j} > 0$$

$$R_{q_j p_i} > 0.$$

(e) *Pure Monopoly:*

It may be defined as the market structure of an industry in which competition is totally absent. Firm *j* is a pure monopolist if the cross-elasticity of demand for its product in terms of the price of the product of *any* other firm *i* in the economy becomes zero.

It should be stated again that the five cases discussed are limiting cases. The discussion could be extended indefinitely if we considered asymmetrical cases, which, of course, abound in actuality.

IV

We are ready now to turn to the formulation of measures of monopoly power in terms of the structure of competitive relationships. Let us se-

lect a firm j and attempt to measure its power vis-à-vis its competitors.³⁶ A firm's capacity to penetrate its competitors' markets is *specific*, i.e., it relates to individual competitors' markets separately, and cannot, therefore, be given a general expression. The whole list of penetration coefficients of a firm (say j) into the markets of its competitors (say $a, b, c, \dots i, \dots n$) is required if we are to obtain a balanced picture of its position in the market.

$$R_{qa pj}, R_{qb pj}, R_{qc pj}, \dots R_{qi pj}, \dots R_{qn pj}.$$

The coefficient of penetration, however, is only the first of the required measures. It measures the capacity of firm j to penetrate its competitors' markets. Firm j 's monopoly power vis-à-vis its competitors is not limited to its capacity to penetrate their markets. Its capacity to withstand attacks on their part is equally important. We need, then, a coefficient of insulation which will measure the degree of non-responsiveness of the actual volume of sales of firm j to price cuts initiated by its competitors. The structure of this coefficient of insulation is obvious only in the limiting case of homogeneous competition among firm j 's competitors. When competition among them is homogeneous, the cross-elasticity of demand for the output of firm j in terms of P_N ,³⁷ is equal to the cross-elasticity of demand for the output of firm j in terms of the price of any of its competitors (say firm i). Symbolically:

$$N_{qj} P_{N'} = N_{qj pi}, \quad \text{if} \quad N_{qj ph} = \infty,$$

where i and h are *any* two firms, other than j , in firm j 's industry. The coefficient of insulation of firm j from competition, in this limiting case, is merely the reciprocal of the coefficient of penetration of its competitors, treated as a single firm, into firm j 's market.

We are entitled to treat N' firms as a unit, however, only because they are competing homogeneously.³⁸ The problem becomes somewhat more complex when the competition among N' firms is heterogeneous. Under conditions of heterogeneous competition among N' firms we must sum the separate penetration coefficients of N' firms in order to obtain the over-all coefficient of penetration of N' firms into firm j 's market. This process of summation is not simple. The capacity of any firm i , among N' firms, to penetrate firm j 's market, when firms N' reduce prices simultaneously, may be substantially greater than its capacity to penetrate firm j 's market when it alone reduces its price.

³⁶ The formulations which follow are independent of the type of industry concept selected. They are valid whether we adopt the firm-centered or the group-centered industry concept.

³⁷ P_N stands for the weighted average prices of all the firms in the industry other than j , on the assumption of a constant price-structure.

³⁸ Professor Morgan's measure is implicitly based on this assumption.

This is due to the fact that K_i may assume different values in the two cases; in fact it may assume a much larger value in the former case than it does in the latter. We have seen that K_i is a decreasing function of the elasticity of demand for the product of firm i . The elasticity of demand for firm i 's product is normally lower in terms of $P_{N'}$ than it is in terms of p_i , inasmuch as the elasticity of a "genus-type" curve is normally lower than the elasticity of a "species-type" demand curve.³⁹ This should explain the difference between the two values of K_i , and, therefore, the difference between the two penetration coefficients of firm i in the two situations. Symbolic presentation will clarify the argument. In order to avoid confusion, however, it seems best to adopt a new set of symbols for the formulation of the coefficient of insulation.

We may substitute λ for K and ρ for R in the formulation of the coefficient of penetration of firm i into firm j 's market, when N' firms reduce their prices simultaneously.

$$\rho_{q_j p_i} = \lambda_i N_{q_j p_i}$$

where

$$\lambda_i = \psi_i \left(\frac{P_{N'}}{q_i} \cdot \frac{\partial}{\partial P_{N'}} g_i(p_j, P_{N'}), \frac{z_i}{q_i} \cdot \frac{d}{dz_i} F_i(z_i) \right)$$

and $q_i = g_i(p_j, P_{N'})$ stands for a (simplified) "genus-type" demand function for the product of firm i . From this it follows that $\lambda_i \geq K_i$ and that $\rho_{q_j p_i} \geq R_{q_j p_i}$. $R_{q_j p_i} = \rho_{q_j p_i}$ in the limiting case where firm i is the single competitor of firm j .

It is legitimate now to sum the ρ 's of firms N' and take its reciprocal as the coefficient of insulation of firm j . Symbolically the coefficient of insulation of firm j may be defined as

$$L_{q_j P_{N'}} = 1 / \sum_{i=1}^{N'} \rho_{q_j p_i}$$

V

Neither R nor L lend themselves easily to measurement. This, of course, is not peculiar to these concepts. All suggested measures of monopoly power are more or less subject to this limitation. Fortunately, however, R and L may be employed in an *ordinal* sense to describe the structure of the balance of power in an industry or market. This should not be taken to mean that we can dispense entirely with *cardinal* measures. We still need to know something concerning the "whereabouts" of R and L . More specifically, we need to know whether they become

³⁹ See note 11.

zero or infinite or tend to assume a finite positive value. Once we know this much about the absolute values of the coefficients, we may turn to their ordinal values. An example may clarify this statement. Let us assume that in an industry comprising three firms (i, j , and k) all the coefficients assume a finite positive value. Symbolically:

$$\begin{array}{rcl} & R_{q_i p_j} > 0 & \\ \sim & & L_{q_j p_{N'}} > 0 \\ & R_{q_k p_j} > 0 & \\ & R_{q_j p_i} > 0 & L_{q_i p_{N'}} > 0 \\ & R_{q_k p_i} > 0 & \\ & R_{q_j p_k} > 0 & L_{q_k p_{N'}} > 0. \\ & R_{q_i p_k} > 0 & \end{array}$$

This is just another way of saying that all firms are insulated to some extent, and that all the firms are capable of penetrating one another's market to some extent. If now, in addition to this, we can say that

$$R_{q_i p_k} > R_{q_j p_k} > R_{q_i p_j} > R_{q_j p_i} > R_{q_k p_j} > R_{q_k p_i}$$

and that

$$L_{q_k p_{N'}} > L_{q_j p_{N'}} > L_{q_i p_{N'}}$$

we have a good understanding of the most important aspects of the structure of the balance of power in this industry. Exact cardinal measures would not add substantially to our knowledge.

Intelligent guessing based on information concerning substitutability among products, shares of the market represented by each firm's sales, and degrees of plant and equipment utilization by the firms in the industry, should enable the investigator to arrive at a meaningful description of the structure of monopoly power in the industry. Even limited information concerning product substitutabilities should make it possible for him to assign to cross-elasticities a value of zero or infinity, or to arrive at the conclusion that the cross-elasticity assumes a finite positive value. Finally, even limited information concerning firm's shares of the market and degrees of plant and equipment utilization should enable him to make tolerable approximations to the values of k .⁴⁰ From there on the task of describing, in terms of the R and L

⁴⁰ Other things being equal, k must be an increasing function of the share of the market represented by a firm's sales and a decreasing function of the degree of plant and equipment

coefficients, the structure of monopoly power prevalent in the industry should not prove exceedingly difficult.

Inasmuch as k may be thought of as an increasing function of the share of the market represented by a firm's sales,⁴¹ we are entitled to say that both R and L are increasing functions of the share of the market represented by a firm's sales. On the other hand, whereas R is an increasing function, L is a decreasing function of the cross-elasticity of demand. It follows that no firm can ever possess both aspects of monopoly power, vis-à-vis its competitors, to the maximum degree. In the case of pure monopoly, for instance, L becomes infinite, whereas R becomes zero. It may not be amiss to indicate briefly the value or the range of values of the two coefficients for a firm (say firm j) within the various *symmetrical* limiting cases of market structures.

(a) *Atomistic Homeopoly*:

$$R_{q_i p_j} = 0, \quad L_{q_j P_N} = 0.$$

(b) *Atomistic Heteropoly*:

$$R_{q_i p_j} = 0, \quad \infty > L_{q_j P_N} > 0.$$

(c) *Circular Homeopoly*:

$$R_{q_i p_j} > 0, \quad \infty > L_{q_j P_N} \geq 0.$$

(d) *Circular Heteropoly*:

$$R_{q_i p_j} > 0, \quad \infty > L_{q_j P_N} > 0.$$

(e) *Pure Monopoly*:

$$R_{q_i p_j} = 0, \quad L_{q_j P_N} = \infty.$$

VI

Some may raise the objection that these measures of monopoly power and criteria for market structure classification are based exclusively on price competition, and do not take into account the effects that changes in selling outlay and product variation on the part of a firm may have on the sales volume of another firm. Dr. Triffin admits the validity of a similar objection to his study. "A price classification, as the one proposed in this study, is by no means exhaustive and, strictly speaking, it should be complemented with similar classifications based on other strategic factors in business competition."⁴² I can agree with Dr. Triffin

utilization. This follows from the fact that k is a decreasing function of the price-elasticity of demand and an increasing function of the elasticity of the output-outlay function.

⁴¹ See previous note.

⁴² *Op. cit.*, p. 98, n. 1.

only if it is assumed that the demand for a firm's product is a continuous function of the "product"⁴³ and selling outlay incurred by the firm as well as of the "products" and selling outlays of its competitors. In these circumstances "product" and selling outlay cross-elasticities would be meaningful measures. Such an assumption, however, is most dangerous. Fundamental changes in sales policies and radical alterations of the product are innovational in character, and would cause abrupt *shifts* of the demand functions. Such shifts constitute changes in the *market balance of power*. Changes in the market balance of power, however, imply alterations of the market structure; they raise questions of transition from one to another type of market structure, and, therefore, defy any descriptive and classificatory attempt. Can we distinguish between innovational product and sales policy changes and non-innovational variations of the "product" or selling outlay? Unless we can do so, it seems futile to attempt to extend our analysis to include product variation and selling outlays. Price cross-elasticities are ideally suited for our purpose, since they bring out the interdependencies inherent in a *given* market structure and no more.⁴⁴

One additional comment is in order. The measures of monopoly power presented in this paper constitute "snapshots" of the structure of power relationships prevalent at a given instant within a system of firms. It must be recognized, of course, that competitive firm behavior elicits continuous changes in the power structure within an industry and may at times lead to spectacular transitions from one market type or position to another. In so far, in fact, as such firm behavior is conditioned by the structure of power relationships in the immediate environment of the firm, there is a dynamic or evolutionary nexus between structure and behavior which constitutes the flesh and blood of the competitive process. The analysis of this process lies, of course, outside the scope of this paper.⁴⁵

⁴³ This presupposes, of course, that we have been successful in quantifying the "product" variable.

⁴⁴ We must be careful, however, even when we deal with price cross-elasticities. Only *point* cross-elasticities bring out the interdependencies inherent in a *given* market structure. *Arc* cross-elasticities involve changes in the structure of balance of power in the market.

⁴⁵ It may not be amiss to indicate the manner in which the concepts developed in this paper may be put to use in interpreting our antitrust legislation. The Sherman Act, for instance, takes on a much clearer meaning for the economist when couched in terms of the concepts presented in this paper, than it would otherwise possess. Section 2 makes it illegal for any firm (or group of firms) to make use of its (their) aggressive (penetration) monopoly power vis-à-vis its (their) competitors. In a circularly homeopolistic industry an independent price-cut by a firm would constitute *use* of its (penetration) monopoly power vis-à-vis its competitors. If, on the other hand, firms in a circularly homeopolistic industry agreed *not* to use their (penetration) monopoly power vis-à-vis one another they could be held as violators of section 1 of the Sherman Act, in so far as such an agreement is tantamount to an agreement not to compete in the price dimension. This peculiarity of the Sherman Act is brought out forcefully, I believe, when we employ the concept of "penetration" as defined in this paper.

STABILIZING RESIDENTIAL CONSTRUCTION—A REVIEW OF THE POSTWAR TEST

By LEO GREBLER*

I

Stabilization of construction activity, as a means of cushioning general business fluctuations, received considerable attention both before and during the war. The limitations of stabilization policies operating through a single, though major activity, such as construction, were more and more recognized, but it was widely believed that greater stability in the volume of construction itself would be a worthwhile objective. The two types of construction in which government action toward greater stability was held to be most promising were public construction and residential building.

The opportunities for government action were obvious so far as public construction was concerned, although there were differences of opinion over the magnitude of these opportunities and the possibility of coordinated measures by the numerous federal, state, and local government bodies. The inclusion of residential building in proposed stabilization policies rested principally on two grounds: (1) Stability of public construction alone, even if it were possible, could not be expected to maintain a reasonably stable volume of total new construction, and (2) The federal government could exert considerable influence on the volume and direction of residential building through the various financial aids which were developed during the 'thirties.

This writer some time ago suggested a framework for a federal housing policy that was designed to mitigate the pronounced cyclical fluctuations in residential construction activity. The proposed means were withdrawal or reduction, during periods of high demand for dwellings, of federal financial aids, and return or intensification of these aids during periods of low demand for dwellings. In detail, the proposal contemplated variations in downpayment requirements, maximum amortization periods, and maximum interest rates for mortgage loans accepted for insurance by the Federal Housing Administration; synchronized credit policies of the Federal Home Loan Banks in extending loans to its member institutions which are primary mort-

* The author is research professor, Institute for Urban Land Use and Housing Studies, Columbia University.

gage lenders; and variations in the volume of such federally aided public housing programs as may be approved by the Congress as a matter of long-range housing policy.¹ As one of several supplemental policies it was recommended that the Federal Housing Administration during booms refuse to recognize excessive building costs in its appraisals, which would automatically lower the ratio of loan to purchase price and would therefore be tantamount to requiring larger downpayments. These suggestions were later broadened to include steps toward greater stability in the volume of public construction, through different means.²

It was made clear that the proposals did not contemplate "a rigid maintenance at all times of a predetermined volume of construction" and that they could be adapted to changing business conditions. One of the purposes of the suggested policies was "to break the over-extended cost-price structure that characterizes building booms," by withholding public construction and by tightening of credit terms for private housing during boom periods.

II

The course of government housing policies from VJ-day to the end of 1948 furnishes an instructive record in respect to these and similar proposals. The postwar experience now covers a sufficiently long period to permit at least some preliminary conclusions. While legislation in the early phase of this period proceeded in the twilight of doubt over the prevalence of inflationary or deflationary forces in the transition from war to peace, the preponderance of inflationary tendencies was apparent during at least three-fourths of the time elapsed from VJ-day to the close of last year.

The preliminary conclusions of this review are disappointing for those who expected that the greatly increased responsibilities of the federal government for economic stability, and the government's direct fiscal interest through its heavy commitments and involvements in the housing market, would stimulate the adoption of policies designed to mitigate fluctuations in this segment of the economy. In summary, the first acid test for the adoption of such policies has been negative. Legislative actions since VJ-day have been designed to enlarge the effective demand for new housing through cheap credit and similar devices. These actions were taken at a time when the demand already exceeded the supply of new dwellings which was limited by materials

¹ "Housing Policy and the Building Cycle," Rev. Econ. Statistics, Vol. XXIV, No. 2 (May, 1942), pp. 66-74.

² *Stabilization of Construction Employment—A Step toward Over-All Stabilization*, in The Winning Plans in the Pabst Postwar Employment Awards (Pabst Brewing Company, Milwaukee, Wis., 1944).

and labor resources, with effects that have contributed to instability. The trend becomes evident from a brief review of recent legislation:

1. The Servicemen's Readjustment Act of *June 1944* provided for the guarantee by the Veterans Administration of G.I. home loans covering up to 100 per cent of the "reasonable normal value" of the property. Thus, the concept of low downpayments developed in the FHA mortgage insurance system before and during the war was stretched further to the extreme of no downpayment loans. The guarantee was for 50 per cent of the mortgage principal but could not exceed \$2000.

2. An amendment to this act in *December 1945* increased the maximum amount of guarantee from \$2000 to \$4000 and changed the basis of appraisal from "reasonable *normal* value" (italics supplied) to "reasonable value." Thus, valuations under this program were loosened rather than tightened.

3. The wartime Title VI of the National Housing Act, which allowed much more liberal FHA financing of new housing for war workers than was possible under the peacetime FHA program, and which had become inactive in the Fall of 1945, was re-enacted in *May 1946* for veterans' housing. At the same time, various provisions of the act were further liberalized. The basis for determining the loan amount was changed from the customary "value" concept to that of "necessary current cost." The maximum loan amount for single-family dwellings was raised from \$5400 to \$8100, with similar adjustments for other types of dwellings. Title VI was allowed to expire on April 30, 1948, but was again revived for rental housing in August of that year.

4. The Housing Act of *1948*, which represents essentially the much debated Taft-Ellender-Wagner General Housing Bill minus public housing and urban redevelopment, contained the following provisions for stimulation of housing construction:

(a) Special FHA insurance aids and RFC loans for prefabricated and other mass-produced housing;

(b) 90- to 95-per cent insured loans for small new houses with amortization up to 30 years and other liberalizations of the prewar terms for FHA home financing, which in effect tend to offset the withdrawal of cheap home-financing credit under Title VI;

(c) 90-per cent FHA insured loans for rental housing and 95-per cent loans for cooperative veterans' housing;

(d) Authority of the Federal National Mortgage Association to purchase certain FHA and veterans' home loans, up to 50 per cent of the total loans of this type originated by a lender, virtually permitting lenders to make these loans and turn them over to a government-owned holder;

(e) FHA insurance of investments in certain types of rental housing (so-called yield insurance).

The emphasis in public discussion on the exclusion of federal aids for public housing and urban redevelopment has obscured the significance of the federal financial aids which are incorporated in this act. The only recognition in the act of possible inflationary influences is expressed in a slight tightening of the appraisal basis for rental housing projects under Title VI of the National Housing Act, and in the authorization to increase the maximum interest rate for veterans' home loans from 4 per cent to $4\frac{1}{2}$ per cent (which at the time of this writing had not been used).

This sketchy summary deals only with major financial aids. It omits non-financial aspects of the Veterans Emergency Housing Program which was in effective operation roughly one year, from the Spring of 1946 through the Spring of 1947, and which contained a great many unstabilizing elements. One of these was the program target itself of 2,700,000 housing units within two years, which was utterly unrealistic in terms of prospective materials and labor availability unless one assumed the presence of large, idle (and transferable) resources, a condition which actually did not obtain. The high target and the attendant drive caused a large initial volume of starts of housing units, the completion of which was delayed. The resulting pressure added to the upward movement of costs and prices. The control and priority features of the program failed to perform the intended function of giving housing a prior claim on economic resources, as this writer sees it, primarily for these reasons: (1) The program itself did not recognize the breadth and depth of controls that were necessary for its accomplishment in an atmosphere of fairly general overemployment, and (2) The community-at-large was unwilling to forego other things in favor of housing to anywhere near the extent to which it was willing to forego other things in favor of waging war.³

III

On the whole, it is only fair to say that federal credit policy in respect to housing since VJ-day represents an extension and intensification of devices which originated during the depression and were judged to have had a degree of success in restoring the badly shattered real-estate and mortgage markets and in stimulating new residential construction. This experience was broadly projected into the postwar period, only that stronger and stronger doses of the same medicine were administered. There has been little recognition in federal policy of the fundamental difference in the effects of liberal credit during

³ For a more extensive though preliminary appraisal of the Veterans Emergency Housing Program, see Coleman Woodbury's paper before the 59th Annual Meeting of the American Economic Association, *Papers and Proceedings*, *Am. Econ. Rev.*, Vol. XXXVII, No. 2 (May, 1947), p. 508. The present article deals only with the trends and implications of federal financial policies in respect to residential building.

periods of substantial underutilization of resources and during periods of full employment or overemployment of resources. During the 'thirties, of course, it was possible through liberal credit to stimulate the demand for housing without substantial rise in the cost of, and the price for, new dwellings. The large unused resources for construction could be brought back into employment without bidding up wages and materials prices. Moreover, the market for existing houses was a buyers' market in most areas and localities, and the large number of such houses offered for sale at distress or near-distress prices served as a check on prices for new dwellings. When the volume of new construction is limited by materials and labor supply and a sellers' market prevails for existing houses, as was the case from VJ-day to late in 1948, liberal credit is likely to push up costs and prices rather than to increase production, *i.e.*, to be inflationary.⁴

The processes through which these effects come into operation need not be explained to an audience of economists, but they require a great deal of explanation for legislators, administrators, and the public at large.⁵ And even when they are adequately explained, one cannot be too certain that policy will be guided by considerations that necessarily place more emphasis on the long run than on the short run. If it is correct to assume that stabilization measures must include restraints during booms, they are apt, by their very nature, to hurt or inconvenience people or groups of people.

This was recognized in earlier proposals to restrain housing credit during periods of high demand. "... Problems of a political nature may arise in the execution of such a policy. Liberalization of mortgage credit terms has found general approval on the part of Congress, the home-buying public, and builders. The same quarters may bring pressure to bear against any tightening of credit terms on the upgrade of the cycle."⁶ But the full force of political and social pressures was perhaps not adequately appraised. Federal housing policies since VJ-day were shaped almost exclusively in terms of relieving the housing shortage by maximum stimulation of new construction, and by

⁴ It may be noted in passing that a public housing program would have had similar effects during the period under consideration. Public housing through 1948 was limited to a federal program of temporary veterans' housing including the relocation and reuse of existing temporary structures, and to a substantial volume of public construction in New York City. Other state and local programs were insignificant. The major program of permanent public housing adopted by the Congress in the summer of 1949 is not within the purview of this article which considers housing policies in the light of business conditions prevailing to the end of last year.

⁵ For a lucid statement of these processes, see Ernest M. Fisher, "The Role of Credit in the Real Estate Market," address before the 41st Annual Meeting of the American Life Convention in Chicago, October 7-11, 1946.

⁶ *Housing Policy and the Building Cycle*, p. 72.

the problems of housing for veterans. Policies of restraint would at least have appeared to compromise the objective of speedy provision of housing for veterans and of rapid removal of the shortage. The fact that veterans generally are lower in the income scale than non-veterans gave further impetus to liberalization of credit. Withdrawal of federal credit aids, once they were on the statute books, was handicapped both by political implications and by apprehension that such action would be more than corrective, *i.e.*, produce a sharp decline in the volume of construction.

While admitting the existence of powerful non-economic forces in shaping policy, the economist may well undertake to probe the means employed toward the attainment of purported ends. In this connection, it is worth while to examine broad relationships between liberal credit and the two principal objectives of federal housing policies since VJ-day: maximum increase in housing supply, and "channeling" of new housing into those family income groups which are considered to need it most. As to maximum increase in housing supply, the argument for liberal credit usually revolves around the point that a high rate of new construction is the only effective means of combating inflation in the housing market, and that liberal credit to accelerate the rate of construction is therefore anti-inflationary and stabilizing in effect. Housing represents, of course, the extreme case of durable goods where the strain on resources for a given increase in production is out of proportion to the immediate increase in total supply. Thus, an effort under full employment to raise the output of nonfarm dwellings during one year by 300,000 units, or roughly one-third the actual annual production in 1947 and 1948, would involve command over one-third more materials and labor resources (in the absence of technological miracles). Such an effort, if successful, must have a wholly disruptive effect on resource prices not only for the increment of 300,000 units but for all new units. Yet, it would increase the total supply of nonfarm housing by less than 1 per cent (on the basis of roughly 34 million nonfarm dwelling units standing in April 1947, according to the Bureau of the Census). The anti-inflationary effects of maximizing the rate of new construction and adding to the housing supply are extremely small and slow. The inflationary effects of liberal credit for maximization of new building are large and immediate, and yet lasting since they become embedded in long-term mortgage obligations.⁷

⁷ The argument could be extended to alternatives of maximum output as a means of supplying housing for those not in possession of housing units. This would, however, involve the examination of rent control and its effects on both housing supply and housing demand. We are here concerned only with those principles that would apply under any circumstances during a period of full employment.

As to "channeling" new housing into middle- and lower-income groups, the argument for liberal credit rests on misunderstood implications of plain arithmetic. The arithmetic is simple enough: For example, the level monthly payment on a \$1000 loan for 15 years at 5 per cent interest is \$7.91 but is reduced to \$6.33 when the terms are liberalized to 20 years and $4\frac{1}{2}$ per cent, and to \$5.28 when the terms are further liberalized to 25 years and 4 per cent. Therefore, it is concluded that liberalization of terms, particularly if limited to certain groups of the population and to new dwellings within certain broadly defined price or rent brackets, will bring new housing within the reach of consumers who otherwise could not afford it. This is, of course, patently wrong when at the same time the maximum loan-to-value ratio is increased, say, from 80 to 90 or 100 per cent, for this augments the amount of loan. In any event, the simple arithmetic assumes that loan amounts and prices are constant and remain unaffected by more liberal credit.

Actually, in a sellers' market, the more generous credit terms are capitalized into higher prices and larger loan amounts, which tend to nullify the benefits of lower interest rates, longer amortization periods, and lower or no-downpayment requirements. As a result, the moderate income groups for which the benefits were designed soon find themselves approximately where they were before, or in a worse position if the magnification effects of expectations on prices are considered. The forces producing this result cannot be measured precisely with now available tools of analysis, but their operation is illustrated by the fact that a 20-per cent increase in the price of houses and a corresponding increase in loan amount are sufficient to wipe out all of the benefits from a change in loan terms from $4\frac{1}{2}$ per cent interest, 20 years, to 4 per cent, 25 years.

It is probable that credit aids in the first instance enabled more veterans to buy houses than would have been the case otherwise, or to buy them earlier. However, when the inflationary effects of the credit aids began to cumulate, the price rise eliminated an increasing number of marginal veteran-buyers, as is suggested by the sharp drop in veteran home loans since early in 1948, both in absolute number and in proportion to all home mortgage loans.

The magnitude of the inflationary effects of federal housing credit policies cannot be established in any conclusive fashion. Results of liberal credit cannot be dissociated from other factors that were at work simultaneously and created upward pressures on construction costs and even more on prices for the finished products. It is only fair to say that postwar conditions were conducive to unconservative lending practices even if such practices had not been sanctioned and

supported by the federal government. All that can be done is to show some quantitative relationships. Thus, in the neighborhood of 50 per cent of all new nonfarm dwelling units were financed by FHA and VA loans in both 1947 and 1948. The largest comparable proportion before the war was 35 per cent, and the 1945 proportion was 20 per cent. In the past two years, more than a quarter of the total number of nonfarm mortgages recorded (of \$20,000 or less) were either FHA or VA loans, and they represented over 35 per cent of the total amount recorded. The comparable prewar proportion was about 12 per cent of the number and 20 per cent of the amount of mortgages recorded. The mortgage debt on 1- to 4-family nonfarm houses increased from less than \$20 billion at the end of 1945 to \$24.4 billion in 1946, approximately \$30 billion in 1947, and probably \$35 billion in 1948. Government-insured or -guaranteed loans now probably account for about one-third of this debt. In contrast, government-insured (FHA) loans represented little over 9 per cent of the debt in 1939.

It seems reasonable to infer from these data that the availability of government insurance or guarantee has had significant effects in expanding the supply of mortgage funds for the financing both of new construction and transfers of existing housing.

IV

It might perhaps be questioned that the experience since VJ-day represents a fair test of the political and social difficulties that beset a policy designed to bring greater stability to residential construction. The test has been limited to a postwar period in which a severe housing shortage and the problem of providing housing for veterans created unusual pressures. Could stabilization policies be more successful in different circumstances?

The postwar test has undoubtedly been conducted under adverse circumstances and may therefore be considered a most severe one. However, the annals of building booms show that they occur characteristically after wars. More importantly, the phenomena and forces creating a postwar housing boom are essentially the same as those creating any housing boom, except that they appear perhaps in more concentrated form. Housing booms are typically preceded by housing shortages involving hardships and pressures. Thus, as housing is increasingly clothed with public interest, there is real danger that the existence of a shortage will always tend to generate government actions of the same kind as were observed during this postwar period—actions which are likely to accentuate rather than mitigate fluctuations in the volume of residential construction. Consequently, the fact that housing has become a matter of national concern, and that residential

building is subject to strong governmental influences, may make government policies directed toward greater stability more rather than less difficult.⁸ This danger will exist so long as the role of credit is not more clearly and generally understood, and so long as the conflict between the social objectives of economic stability and of rapid removal of the housing shortage (or rapid improvement of housing conditions) is not squarely faced. This conflict is a real one in a period of full employment when housing production cannot be maximized without sacrifice of economic stability, and when economic stability cannot be maintained without sacrifice of maximum housing construction.

But granted that liberalization of credit to speed new housing construction accentuates the boom, must this necessarily have an unstabilizing effect? In this field as well as others, stabilization proposals which include both restraining measures operating on the upgrade of the cycle and stimulating measures operating on the downgrade of the cycle have been met with the dictum that "there is nothing wrong with the boom." The objective of stabilization policies, in this view, should be the continuance of activity at boom levels.

The experience since VJ-day in housing construction as well as other lines has been a rather effective demonstration of the characteristics of booms, to which aggregative economics has paid scant attention. Only a few aspects will be mentioned such as the series of materials and labor bottlenecks that have plagued residential as well as other types of construction; apparent low efficiency of both labor and management; continuous upward pressures on costs and prices; disproportionate price increases for different resources; disruption and corruption of distribution exemplified by "gray markets"; a tendency toward low quality fostered by materials substitutions, poor workmanship, and emphasis on speed and easy profits characteristic of a

⁸ The following passage from Roy Harrod's critique of recent British government policies may be noted in this connection: "One of the more sophisticated arguments, but a powerful one, in favour of the nationalisation or State control of certain industries is that the State will succeed in achieving a steadier flow of capital outlay in those industries, through good years and bad, than private enterprise, influenced as that has always been by the vagaries of the trade cycle. In this regard, then, it was claimed that the State should and would do better than private enterprise. As things are turning out, it is doing much worse. This is pre-eminently a time when private enterprise would tend to be induced, under the influence of the hyper-boom conditions that prevail, to go forward too hastily with its capital extensions. It was urged that the wise State, once in control of these enterprises, would go slower during the boom, despite the *prima facie* case for expansion, and speed up capital outlay during a depression, even when there was not an immediate financial case for doing so. In fact the State has indulged in greater excesses in this boom than private enterprise ever would. Its whole influence has been to increase rather than to damp down the tempo." *Are These Hardships Necessary?* (London, 1947), pp. 64-65.

sellers' market; long-term commitments by house purchasers and rental housing investors based on the most optimistic expectations. Since this is elementary, a reminder may suffice that maintenance of boom levels of activity entails the danger of maintaining imbalances such as these. The most serious among them is perhaps the tendency of construction costs and prices to rise more than other prices, and more than disposable income of large segments of the population. This tendency causes concern in view of the one fact on which practically all housing analysts seem to agree, *e.g.*, that cost is at the heart of the housing problem.

The imbalances of the boom result, of course, from efforts in the market place or in government to push output beyond the limits of capacity which has little short-term flexibility, especially during periods of generally full employment. A greater clarification seems to be needed of the relationship between output stabilization and capacity. A feasible objective of stabilization policies may perhaps be the maintenance of production at a level close to, but not exceeding, capacity.

It is possible to interpret recent federal housing policies as part and parcel of a long-term effort to devote a larger proportion of total resources to residential construction, which would require a continuous expansion of capacity over a considerable period of time. In this case, increasing relative costs might be considered the price paid for re-allocation of resources. To the extent that consumers were unwilling or unable to cause the resource shift, the government would pay the price in terms of subsidies or losses on loans, and there would be little if any concern over imbalances produced in the process. If this interpretation is correct, the consequences of pursuing such a policy under conditions of full or nearly full employment must be clearly recognized. One of the consequences would be a snowballing of federal credit and subsidy aids as an increasingly large proportion of families would be unable to stay in the race between rising relative costs and prices and their ability to pay. Another likely consequence would be an increase in the relative cost of all types of construction, both private and public, since housing and other types of construction draw largely on the same materials and labor resources. In addition, government insurance of liberal home mortgage loans or direct government loans would seem to be an extremely poor means of executing such a resource shift. For these loans represent long-term obligations of millions of citizens, a large number of whom might have the notion of making strenuous efforts at repayment rather than "walk out" on the government when obligations become too burdensome. It is hardly a defensible public policy to favor cynical over honest borrowers.

V

It remains to consider briefly some of the implications of the federal housing policies during the past three years. So far, some of the financial (as well as other) aspects of the postwar housing boom have shown an amazing degree of resemblance to those of the boom after World War I—and an alarming one in view of the permanent improvements in mortgage lending practices and policies that were expected to result from the new federal instrumentalities such as the Home Loan Bank Board and the Federal Housing Administration. Shoestring financing in the production of housing and in the purchase of houses for owner-occupancy is probably as widespread as during the earlier period. That the combination of junior and first loans during the 'twenties has been replaced largely by government-guaranteed or -insured first mortgages covering 80 to 100 per cent of appraised value is a superficial difference, except that the high-percentage first mortgages of today are for long terms and provide for regular amortization, whereas the junior loans of the 'twenties were for short or medium terms. Moreover, the use of second mortgages which had been reduced sharply during the 'thirties appears to have increased substantially, although there are no statistical data to evidence this trend. Whether appraisal and underwriting procedures generally are any sounder than during the 'twenties is an open question, despite the addition of many "scientific" trappings to appraisal techniques.

Likewise, it is impossible, in the absence of sufficient data, to generalize on the question whether house purchasers during recent years have overcommitted themselves in the same degree that was observed during the boom of the 'twenties. The more general use of mortgage loans providing for regular amortization is probably the one feature which distinguishes recent mortgage lending from that of earlier periods; but it remains to be seen whether it will be a saving feature, since amortization of the now customary loans with long maturities is slow during the first few years. The fact that such a large proportion of mortgage loans outstanding is insured or guaranteed by the federal government will probably cushion the effect of untoward developments on financial institutions, but whether it will reduce the impact of such developments on the financial system as a whole remains an open question.

Some correction of lending practices characteristic of the immediate postwar period could be observed in late 1947 and in 1948 when mortgagees unquestionably developed a tendency toward greater caution and selectivity. A substantial proportion of government-guaranteed and -insured loans was written for shorter maturities and on lower loan-to-value ratios than the statutory maxima would suggest, and

loan rejections were on the increase. But this development was immediately interpreted by legislators and administrators as representing a shortage of mortgage funds and led to new government programs such as the secondary market operation of the Federal National Mortgage Association authorized in the Housing Act of 1948. In other words, such corrective market forces as have come into operation were weakened by government action pulling the other way, but the final result of the conflict between restraining market forces and stimulating government programs is still in the balance.

Thus, it would be premature to express any summary judgment as to whether recent financing practices fostered by government policies, if continued, will in the end necessarily produce a collapse of the kind and magnitude experienced after the boom of the 'twenties—in spite of uncomfortable parallels that could be observed. The outcome will, of course, be affected by many things other than those reviewed in this article. All that can be said with a degree of confidence is that recent governmental policies have done nothing to prevent fluctuations as great as, or even greater than, those observed in previous periods. They have certainly contributed to the sharp increase in building costs and in prices of new as well as existing houses.

Another implication is the kind of stabilizing government action that is left for application during periods of serious decline in the volume of residential construction. A great deal of the ammunition in the arsenal of government has already been shot away in the recent post-war boom, and will be shot away under the Housing Act of 1948. After supporting 80 to 100 per cent loans for housing during a period of full employment, at unprecedentedly low interest rates and for terms of 25 years or even more, what weapons are left to stimulate housing construction when a stimulus is warranted?

It appears that a program of cheap credit within the framework of private financial institutions could not be carried any further than it has been carried to date. Obviously, the guarantee of loans of more than 100 per cent of appraisal value or cost would be an absurdity and tantamount to a premium for builders and for purchasers.⁹ The effects of further extensions of amortization periods would be less and less significant so far as total financial charges are concerned. Further reductions in mortgage interest rates would depend upon general money market conditions and the not yet fully tested ability of the monetary authorities to manipulate rates. The limits to continued reductions of mortgage interest rates were highlighted in late 1947 and 1948 when even a slight increase in general interest rate levels dimin-

⁹ It may be noted that 90-per cent loans normally enable a builder to cover all of his out-of-pocket expenses or, in the lingo of the trade, to "mortgage out."

ished or wiped out the net-yield margin in favor of 4-per cent guaranteed home mortgage loans, and led to a diminishing supply of mortgage funds *at that rate*. Thus, the principal remaining weapons for future stimulation of residential building activity would seem to be (1) large-scale substitution of direct and probably not self-liquidating government credit for private credit, and (2) a large-scale program of subsidized public housing.

These measures, however, would come into operation at a much higher level of building costs caused by the government aids which were extended during the boom and would, in fact, tend to underpin that level of costs. They would, therefore, either not go as far as they might otherwise, or they would require much greater outlays and burdens than would be the case otherwise. In addition, there would be a profound change in the institutional framework of the American economy if direct government credit and subsidies were to become the principal supports of a high level of residential construction. These prospects may appear either gloomy or bright, depending upon viewpoints. But they must be evaluated against the alternative of more flexible policies in respect to credit and subsidies for housing, geared to minimizing output and employment fluctuations.

THE DYNAMICS OF PRICE FLEXIBILITY

By THOMAS C. SCHELLING*

I. Introduction

The purely theoretical case against price flexibility, as a device for restoring or assuring full employment, has recently come to hinge on dynamic considerations, specifically on the speculative reaction to price changes. Mr. Don Patinkin and Mr. Lawrence Klein have both stated this position.¹ They argue that, while there may at any moment be a price *level* which, if sustained, would yield full employment, the movement of prices toward that level would set off adverse reactions which would dominate the system, causing an aggravation rather than amelioration of unemployment.

It is the purpose of this paper to point out an incompleteness in their logic and to develop an explicit analysis of the dynamic problem involved. First we shall summarize briefly the argument of Mr. Patinkin and Mr. Klein and suggest wherein their omission lies; then we shall present a diagrammatic analysis of the subject.

Briefly Mr. Patinkin's argument is this. A fall in the general price level raises the real value of net cash assets.² The impulse to save is negatively related to the real value of net assets. A fall in general price level consequently lowers the savings function; a rise in price level raises it. There is some price level at which the savings function has the same value at full employment as the investment function.³ Furthermore this "full employment" price level represents, in a certain sense, a stable equilibrium: if prices are too high, employment is less than full,

* The author is currently economic analyst with the Economic Cooperation Administration Mission to Denmark, on leave from Harvard University.

¹ Don Patinkin, "Price Flexibility and Full Employment," *Am. Econ. Rev.*, Vol. XXXVIII No. 4 (Sept., 1948), pp. 543-64. Lawrence Klein, *The Keynesian Revolution* (New York Macmillan, 1947), pp. 88, 89, 109.

² See Mr. Patinkin's discussion of what constitutes "net cash assets" for this purpose *op. cit.*, pp. 549-51. The problem of definition is based on the fact that many cash assets *e.g.*, most demand deposits, are offset by cash liabilities of others. Unless there are asymmetries of response, only certain government liabilities and the monetary gold stock may be included. Mr. Patinkin would include interest-bearing government securities held by the public; this inclusion is correct only if potential taxpayers fail to recognize an increase in the real value of discounted future tax liabilities—which they probably fail to do by and large, at least to a completely offsetting extent.

³ Mr. Patinkin recognizes that the price level effect may be asymptotic.

prices fall; if prices are too low, employment is overfull, prices rise.⁴ Mr. Klein outlines a similar case, although his orientation is principally toward the effect of larger real cash balances on the interest rate, hence on investment (and consumption, if one wishes).

To this line of reasoning Mr. Patinkin then raises two objections, a policy objection and a theoretical objection; Mr. Klein raises the same theoretical objection.⁵ The policy objection is that the adjustment may take too long; wages and prices fall at some finite rate, perhaps the rate is slow and the required fall is great and many months or years are required to lift the real value of net cash assets to the full employment level. The theoretical argument is that the static hypotheses fail to represent all the essential parts of the economic system; expectations have been left out. For when expectations are admitted, it follows that the price changes may cause anticipations of further price changes which affect the level of employment in the opposite direction. When prices fall, and further decline is expected, consumers postpone purchases, businesses liquidate inventory and defer construction, etc. Consequently, while there exists some price level consistent with full employment, the adverse effects of price changes toward that level dominate, and "it is impossible to reach (or, having reached, remain at) such a position."⁶

The above argument may be attacked in either of two ways. One would be to deny the quantitative implications of it: the speculative effect *might* be small, the price level effect *might* be substantial. This becomes an empirical argument, and we shall not pursue it here. The other attack is to grant the essential mechanics of the thing, and proceed to trace the ultimate outcome.

First, it will probably be agreed that, in combatting unemployment, what we are trying to minimize is some function of the whole time pattern of unemployment. A brief period of severe unemployment will perhaps be considered less undesirable than some longer period of mild unemployment.

Second, price flexibility—or wage flexibility, since we shall assume close correspondence between wages and prices—means that when unemployment exists, wages and prices fall at some finite rate over time. (Instantaneous adjustment is not only empirically implausible but precludes the whole question of stability.) Furthermore, the rate of wage-price decline may be geared to the amount of unemployment. It may, in fact, be a rather complicated function of present and past unemployment, *i.e.*, duration may have some effect on the rate of price-

⁴ We shall allow the process to work on both sides of full employment.

⁵ Klein, *The Keynesian Revolution*, pp. 88, 89, 109.

⁶ Patinkin, *op. cit.*, p. 559.

wage decline; but we shall assume that the time rate of change of wages and prices depends on the amount of unemployment.

The crux of our argument is this: the speculative expectation effect *may*, by initially increasing unemployment, accelerate the price decline and ultimately shorten the duration of unemployment. Essential to this result are two conditions: (1) that, after some lapse of time, the price *level* effect asserts itself over the anticipation effect, and (2) that the resulting time pattern of unemployment actually does, according to somebody's criterion, represent an improvement over the alternative, slower, direct approach to full employment, *i.e.*, the one which would occur in the absence of the "adverse" speculative reaction.

What we are talking about is a "cold turkey" remedy, in contrast to a tapering off. It is as though the best way to cure a cold were to make it initially worse so that the patient would go to bed and take care of himself.

It is difficult intuitively to see whether there is a flaw or hidden inconsistency in this argument. One might suspect that the mechanism works only if "peculiar" shapes are imputed to the relevant behavior functions. Fortunately, the whole analysis can be put into a diagram which, in spite of some multiplicity of variables, is fairly simple.

In the abstract, the problem to be studied is that of one variable whose rate of change over time is related to a second variable whose value in turn is related both to the value of the first and to the latter's rate of change over time. While the following analysis will proceed in terms of the present question of price flexibility, problems of this form may be found in other contexts.⁷

II. Analysis

First we must specify what our behavior functions are and formulate the concepts of adjustment and stability. We have two behavior equations in this model; they are all we need for the case being analyzed. One is this: the rate of wage-price decline depends on the amount of unemployment; specifically, the greater the unemployment, the faster the fall of wages and prices. Denoting unemployment by U , and the rate of price-wage decline by P' , we draw the curve labelled $P'(U)$ in the diagram to represent this relationship between the rate of price decline and the amount of unemployment. The horizontal axis (Figure 1) measures unemployment; the vertical axis, labelled P' , measures the rate of price decline in, say, per cent per month.

The second hypothesis is this: the level of unemployment depends on both the price level and the rate of price change. (We have implicitly, of course, an investment and a consumption—or savings—function.

⁷ See the final paragraphs of this paper for two examples.

We may, to fix ideas, think of the absolute price level as determining the height of the savings function, and the rate of price change as determining the height of the investment function.) While income, or employment, depends only on price, it depends on two aspects of price: the level itself and its rate of change. We treat these as two separate variables (as far as the unemployment function is concerned). The two variables, P and P' , are completely related in that, knowing the course of P over time the course of P' can be derived; and, given the

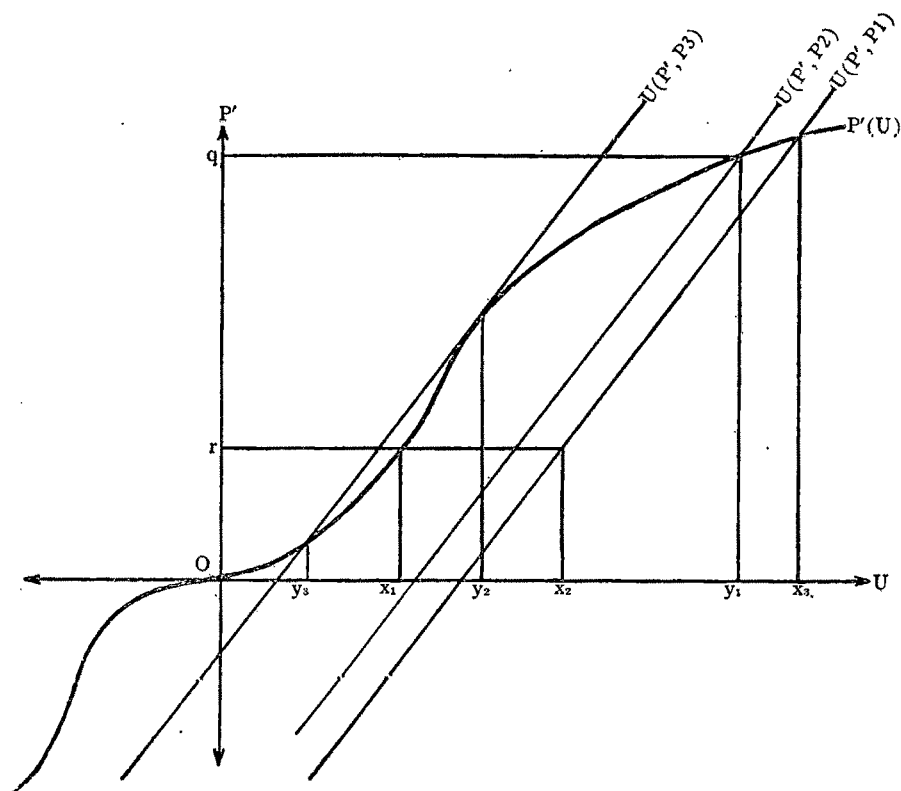


FIGURE 1

course of P' over time and the initial value of P , the entire course of P can be constructed. It is as though some magnitude depended on both the speed and distance of a moving object, where the speed is, of course, the rate of change of the object's distance over time.

These two behavior functions would be sufficient to determine the course of the variables over time. If both of these functions are satisfied, *i.e.*, if the values of U , P , and P' conform to our hypotheses, the time path of U and the time path of P (hence also of P') can be traced if we know the shapes of the functions. We might be tempted at this

point to assume certain shapes for our behavior functions and trace out the time pattern implied in them, to see whether unemployment tended toward zero and price toward some equilibrium value. But this procedure would avoid the main problem, namely whether our two functions necessarily are, or can be, simultaneously satisfied. For in reality we are dealing here with two levels, or orders, of equilibrium: equilibrium in the sense of satisfaction of our two behavior functions—a dynamic equilibrium in which the variables are in motion—and “full employment equilibrium”—a static equilibrium whose condition is that P , U , and P' have certain values, namely zero for U and P' . We must first ascertain whether our two behavior functions enjoy dynamic stability, before analyzing the implications of their simultaneous satisfaction.

We must look now at the concept of dynamic stability. Two or more behavior patterns (or functions, or equations) are considered stable if, when an initial set of actual values differs from those which satisfy the functions, the values of the variables ultimately approach those values which do satisfy them, these latter values being referred to as “solution values” or “equilibrium values.” Inherent in this concept is the recognition that divergencies from equilibrium may occur, that the variables do not adjust instantaneously to their function values, *i.e.*, that the behavior patterns represent tendencies, propensities, or aggregates of individual intentions.⁸ The solution of the behavior equations is significant only if (1) there actually is a solution—there is nothing sociologically necessary about the existence of a solution, *i.e.*, about the consistency of all economic intentions, and (2) the solution is stable as defined above. If the solution is not stable, the implications of simultaneous solution are largely irrelevant.

It is analytically useful—and frequently plausible empirically—to assume that one type of behavior adjustment is more rapid than the other, even instantaneously rapid by comparison. For example, in the cobweb analysis demand is usually assumed to adjust immediately to price, while supply responds slowly or with a lag. According to this point of view, one of the functions is considered to be always satisfied; *e.g.*, price-quantity combinations always satisfy the demand function in the usual cobweb analysis. Often, for purposes of analysis, it does not matter which variable is taken as adjusting instantaneously and which as the slow one whose behavior pattern is never satisfied until equi-

⁸ That is, each function is itself one (short-run) equilibrium condition. The full interpretation of $U = f(P, P')$ is that:

$$\frac{dU}{dt} = \Phi [U - f(P, P')], \text{ where } \Phi [0] = 0$$

and $\text{Sign } \Phi [U - f(P, P')] = \text{minus Sign } [U - f(P, P')]$.

librium is reached. (In the present case this is so; in the cobweb case the stability conclusions are reversed.) Intermediate positions seem more realistic, in which rates of adjustment of both variables are explicitly considered, and neither function is quite satisfied until equilibrium is reached. Diagrammatic analysis is much simpler if we let one variable adjust rapidly in relation to the other; the reader can reverse or compromise this position in the analysis below, and convince himself that the conclusions remain valid.

Of the two functions, we shall consider the price-flexibility function as the rapidly adjusting one, *i.e.*, the function relating the rate of price-wage decline to the amount of unemployment, the one labelled $P'(U)$. We assume, that is, that the rate of price-wage decline is always exactly geared to the amount of unemployment, in accordance with this function, with no appreciable lag. (Which is to say that it adjusts so quickly that no appreciable change occurs in either U or P while the adjustment takes place.) And we assume that unemployment adjusts at a slower rate, always moving *in the direction of* its value according to the unemployment function (which is a function of both P and P').

We proceed now to the first diagram. The $P'(U)$ function, relating the rate of wage-price decline to unemployment, is given an ogive shape, to indicate that price-wage rates fall slowly at low levels of unemployment, that the rate of price-cutting sharply rises beyond some critical unemployment level, and that it then tapers off to perhaps an asymptote. We give it this shape only to demonstrate the possibility of certain results, and not because of its compelling plausibility. This function goes through the origin, which only means that our definition of "price flexibility" is consistent with our definition of "full employment." It rises steadily to the right, and it appears in both the north-east and the south-west quadrant, those of unemployment and over-employment respectively, being negative (rising prices) in the over-employment range.

We next draw our unemployment function. Since our diagram is two-dimensional, we cannot show U as function both of P and of P' . So we draw the U function corresponding to a given value of P , namely P_1 , labelling this function $U(P', P_1)$. This function rises to the right; it is drawn as a straight line for manipulative simplicity. If it were vertical, it would indicate the absence of the expectation effect; the less steeply it is sloped, the greater is the indicated sensitivity to price-change. Since the U function corresponding to P_1 cuts the horizontal axis to the right of the origin, we know that P_1 is greater than P_0 , the full employment equilibrium price level, *i.e.*, the price level which, if sustained, would be associated with full employment. That is, the particular function drawn for P_1 shows positive unemployment for zero rate of price change.

We assume now that price P_1 exists, and that unemployment is of the amount denoted by x_1 on the diagram. (We have thus subjected our system to two disturbances from full equilibrium, one shifting the U function at current prices so that price is above equilibrium price, and another knocking unemployment out of line with the unemployment function.) Immediately prices begin to fall at the rate given by the P' function, namely the rate r on the diagram.

With the given price, P_1 , falling at the rate r , unemployment tends to move toward x_2 , the function value for U corresponding to P_1 and r . This movement takes a finite length of time, during which (1) the rate of price decline increases in accordance with the P' function, and (2) price itself is declining. So the path traced out by U and P' is along the P' function, toward the receding value of the U function. If the adjustment of U is fast relative to P' (not relative to the adjustment speed of P' , which would be P'' , but to the rate of change of price itself) multiplied by the derivative of U with respect to P ; *i.e.*, if the adjustment speed of U is fast relative to the *shift* of the $U(P')$ function as P changes; the "final" position is near x_3 with P' equal to the P' function value corresponding to x_3 . But, if the price changes during the adjustment have shifted the U function appreciably, then the U function has been moving appreciably leftwards as U increased (for the falling price means a falling savings function and a falling unemployment function) and the end result is at, say, y_1 , with price P_2 , and price now changing at the rate q .

But this "end result" is only the very short-run solution; for price is changing according to the P' function, and the U function is therefore moving steadily leftwards. So y_1 , q , and P_2 only represent points on a moving equilibrium; P_2 is not, except by coincidence, equal to P_0 .⁹

Before taking the next step, we should notice that our intersection of the U and P' functions is stable as we have drawn it; *i.e.*, an initial value of U off the U function approaches its function value (ultimately approaches it: the solution value may move ahead of U itself for some distance faster than U moves.) This is dynamic stability—of our behavior functions, not yet of the P_0 price-full employment equilibrium, although that will be seen later to follow. Had the U curve intersected the P' curve from above, the behavior system would have been unstable (at least until another intersection were approached) and U would either rise or fall without approaching any limiting value.

It will be noticed that the expectation effect has aggravated unemployment. From an initial position x_1 , U has increased to y_1 . Had the U function been a vertical line (*i.e.*, without expectation effect) unemployment would simply have moved leftward from x_1 , as price declined

⁹ It could, of course, be less than P_0 , since the U function has shifted leftwards. The implications of this possibility will become clear later.

and the vertical U function shifted leftwards. It should also be noticed that, at the new position y_1 , price is declining much faster than it would have declined at or near x_1 .

The next step is to trace out the subsequent courses of U, P, and P'. We shall assume that the price level effect is purely additive, *i.e.*, that the U function keeps its shape and moves leftward parallel to itself as price falls. And—solely to help keep track of our variables—we shall assume that equal successive percentage decreases in price cause equal absolute shifts to the left of the U function.¹⁰

We now introduce a clock and move the U function leftwards at a speed proportional to the value of P'. As the U function moves leftwards, P' decreases and the leftward speed of the function diminishes. We can keep a time series record of unemployment as we go.¹¹

When P has declined to P_3 , corresponding to the U function tangent to the P' function, the short-run equilibrium becomes unstable, and U moves *at its own adjustment speed* toward y_3 (which is itself receding as price continues to decline.) By "its own adjustment speed" we mean the rate at which U moves toward its own function value, the one which was relevant for movement from x_1 to y_1 .¹² From y_1 to y_2 , U moved at a speed geared to the rate of leftward shift (itself proportional to P') and the slopes of the two functions. (It might be that U's own adjustment speed were small relative to the rate of leftward shift; in that case U would always be limited by its own adjustment speed. We shall, in general, ignore this possibility.)

This movement from y_1 to y_3 is the conceptual reverse of the initial movement from x_1 to y_1 . What has happened is that price has already declined substantially, and it is the rate of price decline which is

¹⁰ That is, U is linear in the reciprocal of P.

¹¹ In this and the following paragraphs we make the very important assumption that the U *function* shifts slowly relatively to U's ability to adjust toward its function value, so that the intersection may be taken to denote the value of U. Strictly speaking, the value of U cannot be taken as lying quite on the function—else the value of U could not be changing. What we must envision is a rate of adjustment of U, toward its own function value, which varies with U's distance from its function value, rapid relative to the function's shift when U is any appreciable distance from its function value. And dU/dt may be taken, in short-run equilibrium, as given by $dU/dt = df/dt = f_P P' + f_{P'} P'' = f_P g(U) + f_{P'} g'(U) dU/dt$, or,

$$dU/dt = \frac{f_P g(U)}{1 - f_{P'} g'(U)}$$

where the numerator denotes the leftward shift of the U function, and the denominator allows for the slopes of the two intersecting curves. In the above notation we have written $g(U)$ for $P'(U)$ to avoid complication with primes; P' and P'' are time derivatives, $g'(U)$ is derivative of P' with respect to U.

¹² This speed is not taken to be constant (*cf.* n. 11) but rather as varying with the distance from the function value.

holding unemployment at a high level. As employment creeps up, the rate of price decline slows down sharply in the region where the P' function is steep, and a cumulative interaction sets in, a "multiplier effect" which finds U pushing its own function value ahead at a faster rate than U itself can adjust for some distance.

For a while, prior to tangency, there were three intersections, two stable equilibria with an unstable one between. At one of those price levels there were two possible equilibrium employment levels, each corresponding to a different rate of price change. Any autonomous jump of unemployment from one of these values to the other would have been a stable shift, *i.e.*, unemployment would have stayed fixed (in the short-run sense) at the new point.

According to the diagram, U then continues to move asymptotically toward zero, as P moves toward P_0 at a rate given by the P' function. Before comparing relative severities of unemployment, we may consider a few interesting points. One of them is the question: can unemployment, according to these hypotheses, oscillate? We had one reversal of direction at y_1 ; can there be another?

If the P' function has an ogive shape in each quadrant, *i.e.*, one inflection point in each quadrant, we have the result that U may reverse direction *but not more than twice*, aside from the original reversal at y_1 . If the U curve tangent to the P' curve cuts the horizontal axis to the left of the origin, the multiplier effect carries U over into the over-employment region, the south-west quadrant. This occurs because price has fallen below P_0 . In this case, U starts back along the P' curve in the south-west quadrant. (The intersection in that quadrant—if there is one—is necessarily stable.) The same thing can occur on the return trip, *i.e.*, a skip into the northeast quadrant. But, as the reader may test, it cannot then again skip back southwest so long as the P' function has the general shape imposed above. Whatever the shape of the P' function, so long as there are intersections in both quadrants, the number of oscillations is limited by the number of waves in the P' curve.¹³

It is also clear from the diagram that, if the system shows short-run stability, there is also long-run¹⁴ full employment stability. There is, however, the intermediate case, that for certain initial values there is short-run stability but after a finite time the process rolls off the track

¹³ Again our conclusion rests on the assumption that the U function slides slowly relatively to the speed at which U can adjust. Without this assumption perpetual oscillation may be obtained.

¹⁴ "Long run" as used here is the short run of usual analysis, *i.e.*, a period short enough that variations in the investment or consumption functions—other than those allowed for in the analysis—are susceptible of being ignored. Specifically, "long run" equilibrium refers to full employment and price P_0 .

and becomes unstable. This could occur if the tangent U function crossed the horizontal axis left of the origin and there were no intersection in the southwest quadrant. In that case initial unemployment would be aggravated by the "multiplier effect," check itself and start its orderly return along the P' function, and then "fly off on a tangent" into the overemployment side and keep forever going. This sort of thing could occur if the P' function failed to show symmetry about the

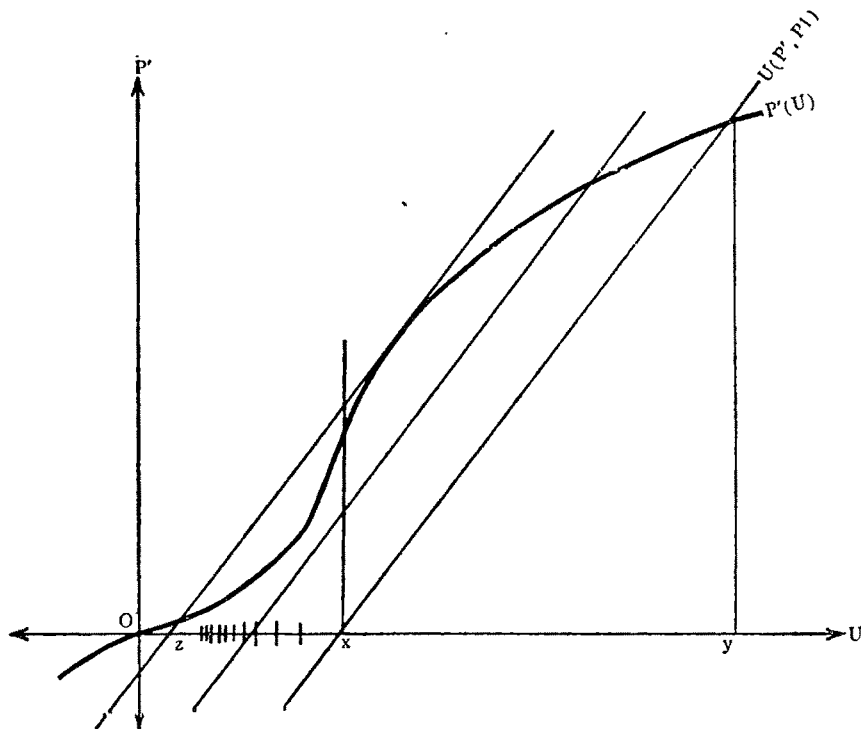


FIGURE 2

origin (which it need not), or could enter by the complication of the unemployment function's shape.¹⁵

Nothing will be argued here about the probable shapes of the functions. What has been demonstrated is that the expectation effect *need not* imply instability of full employment equilibrium, even though it does initially involve an increase in unemployment over what it would otherwise have been in the absence of anticipations. That is, whether

¹⁵ If we allow our behavior functions to apply even at zero employment on the one side, and some comparable physical limit on the other, then long run stability can be guaranteed so long as P' does not become infinite and we retain our assumption that U 's own adjustment is fast relative to the rate of shift of the U function.

the price-change effect leads to stability or instability has been shown to be an empirical question.

We shall now demonstrate the possibility that the expectation effect reduces the "severity" of unemployment. Of course, individual value judgments enter at this point if severity is a welfare problem. But probably all value judgments would allow that the magnitude of unemployment could be offset by its brevity, *i.e.*, that the height at its peak is not the sole measure of severity.

An attempt has been made on the second diagram to space the successive U functions proportionately to the height of the P' function, so that the various contour values of P denoted by the different U curves are equally spaced in time. (Here we make use of our simplifying assumption that U is linearly related to the reciprocal of P .) Similarly the cross ties on the horizontal axis, between the point x and the origin, are spaced horizontally in proportion to the values of P' corresponding to the values of U they denote. They represent successive unemployment figures, equally spaced in time, in the absence of the expectation effect, *i.e.*, if the U function is vertical. (The cross ties should be vertical U functions intersecting the P' curve; they are drawn as they are to keep the diagram clear.) We can compare now the two time series of unemployment under the two alternative assumptions of some, or no, expectation effect, by marking down the successive values of U corresponding to the successive intersections of the U and P' functions, going from right to left.

We have drawn a favorable case for our argument. If we introduce the expectation effect in the form of the curve labelled $U(P', P_1)$, we find that initial unemployment is about trebled. But we also find that it reduces, in two units of time plus some adjustment time (during the unstable phase from the point of tangency to z) to the amount of unemployment denoted by z . Without the expectation effect, P changes very slowly, and numerous units of time are apparently (the diagram is too coarse to permit counting) required for U to diminish to the amount z . Here we have procured, at the expense of severe unemployment for something over two units of time, a rapid fall in prices which brings us close to full employment, all through the agency of the "adverse" expectation effect.

A few other problems which share the form of that treated above may be suggested. If we suppose the rate of construction, X , related to the rent level, R , while the rent level itself is related to the stock of houses, S , and the national income, Y , we have: $X = X(R)$ and $R = R(S, Y)$. But the rate of construction is the time rate of change of the stock of houses, so we replace X by S' , obtaining $S' = S'(R)$, $R = R(S, Y)$. If next we suppose that a principal determinant of the

level of national income is the rate of construction itself, *i.e.*, $Y = Y(S')$, then we can rewrite our two relationships as: $S' = S'(R)$, $R = R(S, S')$, which is formally identical with the price flexibility formulation. If, as we probably intended, S' is positively related to R , while R is related negatively to S and positively to S' , the intersection of the two curves on our diagram will move toward a long-run equilibrium if dynamic stability is present—the only case in which the intersection is relevant.

Again, one might postulate (as we did above) that consumption is related to net assets as well as to the level of national income, and write $C = C(A, Y)$ to denote this. Letting Y , for simplicity, be the sum of consumption and investment, we then have $Y = C(A, Y) + A' = Y(A, A')$, for investment is simply the rate of change of assets (allowing for no price movements in the present case.) Then if we consider the level of income to be a principal determinant of the rate of investment, we have both $Y = Y(A, A')$ and $A' = A'(Y)$, which is formally similar to the price flexibility problem. In the present case we probably intend that Y is positively related to both A and A' , so the intersection on our diagram will move steadily outward, to no long run equilibrium, if dynamic stability is present. And again, if the curves so intersect that dynamic stability is absent, the two relationships will not be satisfied in the first place; the course of their moving intersection is consequently without significance.

This last example suggests a further extension of the technique. We may consider investment, as well as consumption, to be related to total assets and national income, so that $A' = A'(A, Y)$ and $Y = Y(A, A')$. In that case both our curves, that relating Y to A' for a fixed value of A and that relating A' to Y for a fixed value of A , would shift over time as A changed at the rate A' . If the curves are dynamically stable, then whether A , A' , and Y approach equilibrium depends on the relative shifts of the A' curve and the Y curve as A changes in value over time. (In this more complicated case, long-run equilibrium may be approached by some of the variables and not by others.)

WARBURTON VS. HANSEN AND KEYNES

By RENDIGS FELS*

In several recent papers, Clark Warburton has used statistical data on the velocity of money to defend traditional monetary theory and to dispute Keynesian theory.¹ His remarks raise five closely related problems, which will be discussed below: (1) the validity of the monetary theory of the cyclical downturn; (2) the validity of the theory that a shortage of investment opportunities causes the downturn; (3) the mutual consistency of the two preceding theories; (4) the validity of Keynes' theory of liquidity preference; and (5) the efficacy of monetary policy compared to fiscal policy.

1. Dr. Warburton has described the following sequence as causing the downturn; monetary deficiency leads to falling prices and *ipso facto* reduced profits and/or the expectation of losses; reduced profits cause the business downturn.² In other words, the peak in money supply relative to trend comes first, then the peak in prices, and lastly the peak of the business cycle. In the same article Dr. Warburton has provided statistical data on the quantity and circuit velocity of money with which the sequence can be verified for the period 1919-1945. The actual sequences are shown in Table I. In two cases (the downturns of 1929 and 1937), the sequence is borne out. In the other three cases, the peak in money relative to trend occurred virtually simultaneously with the cyclical peak, so that the sequence is not borne out. Neither is it satisfactorily disproved.

* The author is assistant professor of economics at Vanderbilt University.

¹ "Hansen and Fellner on Full Employment Policies," *Am. Econ. Rev.*, Vol. XXXVIII, No. 1 (March, 1948), pp. 128-34; "A Consideration of the Economic and Monetary Theories of J. M. Keynes: Discussion," *Am. Econ. Rev., Proceedings*, Vol. XXXVIII, No. 2 (May, 1948), pp. 293-95; "Quantity and Frequency of Use of Money in the United States, 1919-45," *Jour. Pol. Econ.*, Vol. LIV, No. 5 (Oct., 1946), pp. 436-50.

² *Journal Political Economy*, October, 1946, p. 443: "Monetary deficiency, either in the virulent form of contraction or in the milder form of absence of growth, is likely—in fact, almost certain—to produce a business depression. The reason for this is the well-known fact that wage rates and other business costs are largely fixed by contract or custom and that their downward revision is a slow and difficult process. A falling price-level therefore reduces business profits by narrowing the margin between the price of a product and its cost of production. The resulting absence of profit, or threatened loss, induces businessmen to reduce their output." In the March *American Economic Review*, Dr. Warburton holds that a rate of growth of the money supply slower than trend has the same effect.

Establishment of the expected statistical sequence is not sufficient to substantiate Dr. Warburton's theory. Even when the central bank has pursued a restrictive policy, as in 1937, it is possible that the slackening in the rate of increase in the money supply was caused by other factors, *e.g.*, the decline in net income-increasing expenditure by governmental units, which began in July, 1936,³ gives a plausible explanation both of the downturn of 1937 and the antecedent slackening in the rate of growth of the money supply.⁴

From a theoretical point of view, the milder position of Professor

TABLE I.—STATISTICAL TESTING OF DR. WARBURTON'S
MONETARY THEORY

Peak in Money Relative to Trend ^a	Peak in Wholesale Prices (BLS)	Peak in Business Cycle ^b
1Q 1920	May 1920	1Q 1920
2Q 1923	Mar. 1923	2Q 1923
2Q 1926 ^c	Nov. 1925	3Q 1926
2Q 1928	Sept. 1928	2Q 1929
4Q 1936	Apr. 1937	2Q 1937

^a Money held by business and individuals including time deposits, taken from Warburton, *Journal Political Economy*, October, 1946, pp. 438-41.

^b The dates of the cyclical peaks are taken, in accordance with Dr. Warburton's own preferences (*American Economic Review*, March, 1948, p. 130), from Arthur F. Burns and Wesley C. Mitchell, *Measuring Business Cycles* (New York, 1946), p. 78.

^c 3Q 1926 shows an increase which is less than trend by only a negligible amount. Total quantity of money, however, has a peak in 4Q 1925.

Haberler, who holds that inelasticity of the money supply makes the economy vulnerable to a downturn,⁵ seems sounder than the position of Dr. Warburton, who deems it a sufficient cause of the cyclical turning point. One must be very sympathetic indeed to the monetary approach to consider a rate of increase in the money supply of, say, 3 per cent (as compared to the trend rate of 4.5 per cent) a potent cause of depression.

2. In his comment on Professor Fellner's review of Professor Hansen's *Economic Policy and Full Employment*, Dr. Warburton has proposed an empirical test of the theory of shortage of investment opportunities *vs.* the monetary theory and has issued to Hansen, Fellner and any other interested economist three challenges:

a. To cite a single case [of a cyclical downturn], with supporting factual

³ Henry H. Villard, *Deficit Spending and the National Income* (New York, 1941), pp. 287 and 293.

⁴ Of course, the full story of 1937 is much more complicated.

⁵ Gottfried Haberler, *Prosperity and Depression*, 3rd. ed., (Lake Success, 1946), pp. 355-56.

data, which was not preceded by or simultaneous with monetary contraction relative to a reasonable rate of growth;

b. To cite a single case in which the monetary contraction associated with the down-swing was not itself sequential to (*i.e.*, preceded by) specific forces—such as central bank action, other government policies, or gold movements—which exercised a contractive influence on the effective quantity of bank reserves and the volume of bank credit outstanding or a direct contractive action on another important form of circulating medium;

c. To cite a single case, with supporting factual data, in which “idle money,” as indicated by a decline in circuit velocity relative to secular trend, preceded monetary contraction at the peak or in the early stage of the down-swing phase of the cycle.⁶

Contrary to Dr. Warburton's impression, failure to meet the three challenges does not damage the theory of inadequate investment opportunities as the origin of depression. With respect to the first and third, savers who are unable to find investment outlets might just as well be expected to repay bank debts (directly or indirectly) as to hold idle money.⁷ Moreover, inasmuch as Dr. Warburton has in mind primarily a decline in the money supply relative to a rising trend, it can be pointed out that gradual exhaustion of investment opportunities would be expected to slow down the rate of credit creation by the banks; for new investment both directly and indirectly stimulates the expansion of credit.

With respect to the second challenge, the presence or absence of specific forces having a contractive influence throws little light on the issue. Monetary deficiency in Dr. Warburton's sense could occur without such forces; on the other hand, where they do appear, they need not necessarily result in monetary deficiency.

Nevertheless, the data compiled by Dr. Warburton do provide evidence for one instance of idle money preceding both monetary deficiency and the downturn. In 1926, the peak in circuit velocity relative to trend preceded the peak in money supply relative to trend.⁸ The sequence depends on using, in accordance with Dr. Warburton's own preferences,⁹ the circuit velocity of the quantity of money held by business and individuals rather than the velocity of the total quantity of money. The total quantity of money gives no evidence of idleness prior to contraction.

⁶ *American Economic Review*, March, 1948, p. 131.

⁷ None of the references cited by Dr. Warburton contains any statement by Professor Hansen that idle money precedes either the downturn or monetary deficiency, nor do I know of any such statement by Professor Hansen.

⁸ *Journal Political Economy*, October, 1946, p. 439.

⁹ *Ibid.*, p. 447.

3. Dr. Warburton's presentation gives us a simple choice between two theories: the facts can support one or the other but not both. Actually, however, the facts can be (and usually are) consistent with both theories. It is this that makes it difficult in any given case to choose among alternative explanations for the downturn, and the statistical testing of business cycle theories is therefore apt to be unrewarding. Moreover, aside from the problem of interpreting events in any actual downturn, even in principle we may not be faced with a clearcut choice. We can, to be sure, say that the monetary explanation is correct if we know that a more elastic money supply would have indefinitely postponed the downturn whereas no increase in investment opportunities would have avoided it given the actual status of the money supply. Likewise, we can accept the exhaustion-of-investment-opportunities theory if we know that more investment opportunities would have avoided the downturn whereas no increase in the elasticity of the money supply would have done so. But it is possible that neither greater elasticity of the money supply alone nor more investment opportunities alone would have avoided the downturn. An eclectic can plausibly maintain, *e.g.*, that in 1929 (see below) the shortage of investment opportunities made a downturn inevitable but that an easier credit policy might have postponed it.

4. The preceding comments have concerned the cyclical downturn. Dr. Warburton's discussion of Keynes at the 1947 annual meeting of the American Economic Association by implication had to do with the expansion and contraction phases of the cycle. Dr. Warburton attempted to use the well-known fact that both the quantity of money and its velocity increase in the upswing and decrease in the downswing to disprove Keynes' theory that an increase in the money supply reduces velocity by bringing down the interest rate.¹⁰

In a similar vein, Dr. Warburton has criticized Professor Hansen

¹⁰ *American Economic Review*, May 1948, pp. 294-95: "In Keynesian theory, changes in circuit velocity of money are positively correlated with changes in the rate of interest, and changes in the rate of interest are negatively correlated with changes in the quantity of money. This means that changes in circuit velocity are negatively correlated with changes in the quantity of money, that is, V and M are compensatory, with additional supplies of money becoming 'idle' money. This contrasts directly with pre-Keynesian theory, according to which monetary expansion in excess of a normal rate of growth is accompanied, with some lag, by higher monetary velocity, and monetary contraction by hesitancy in the use of money; that is, changes in V were regarded by pre-Keynesian economists as a force accentuating rather than compensating the effects of changes in M .

"... Our study [at the Federal Deposit Insurance Corporation] has covered the period since 1918. The facts, we find, are in conformity with pre-Keynesian theory. The liquidity preference phase of Keynesian theory is not in accord with the facts, and appears to be irreconcilable with them."

Dr. Warburton does not give the statistics supporting his generalization.

for saying that there was a vast increase of money between 1934 and 1937 and that velocity was low.¹¹ According to Dr. Warburton, "From the low in 1933 to the high in 1937 the quantity of money increased relative to trend by less than 10 per cent, circuit velocity by more than 30 per cent. In terms of contribution to recovery—that is, to stimulation of sales at more than a normal rate of growth—the rising circuit velocity was more than three times as potent as the increase in the quantity of money."¹²

Dr. Warburton's position is open to criticism on two counts. First, on account of the usual *ceteris paribus* procedure in economic analysis, the liquidity preference doctrine cannot be discredited by a showing that historically increases in the quantity of money have been accompanied by increases in velocity. The essential question is, would not velocity have been higher in the period 1934-37, *e.g.*, other things being equal, had the money supply been smaller? No simple statistical analysis can answer the question. It may be that Dr. Warburton's investigations are more complicated than his comments at the annual meeting indicate, but it is doubtful if a complicated analysis would not be open to so much dispute that it could do little to settle the argument. Keynesians will remain convinced that federal deficits provided the driving force behind the expansion of 1934-37; that the increased velocity resulted from the rising levels of activity so generated; and that the chief effect of the increased money supply was to prevent velocity from increasing as much as it otherwise would.

Second, Dr. Warburton's statistical procedure is open to question. His figures indicate a relatively large increase in velocity and a small increase in money primarily because he removes trend. His trends, which are straight lines, apparently are based on the period 1919-29 and are projected into the period 1930-45.¹³ It is true that the trend for velocity gives a good fit to the actual data for the later period, but Dr. Warburton's assumption that the same forces which produced a straight-line downward trend in the 'twenties continued to operate at the same rate in the 'thirties is dubious. It can equally well be assumed that the principal force making for a downward trend in velocity in the period 1919-29 was a rise in per capita real income;¹⁴ as real

¹¹ Alvin H. Hansen, *Economic Policy and Full Employment* (New York, 1947), pp. 224-25.

¹² *American Economic Review*, March, 1948, p. 133. Dr. Warburton's statistics, which compare the low of 1933 with the high of 1937, are a bit unfair to Professor Hansen, whose statement referred only to the period 1934-37. Thus Dr. Warburton introduces into his figures the sharp rise in velocity between the 1st and 2nd quarters of 1933.

¹³ *Journal Political Economy*, October, 1946, p. 447.

¹⁴ This is, in fact, Dr. Warburton's own opinion (*ibid.*, p. 443).

income per capita even in 1937 did not regain the 1929 level, it would be expected that the downward trend would be mitigated; and therefore the velocity in the period 1934-37 was low.

The trend for quantity of money, when projected into the 'thirties, does not give a good fit at all. Even if it did, one could still maintain that the forces producing the upward trend in the 'twenties—population growth, increased productivity per capita, and the forces increasing the ratio of cash holdings to expenditures¹⁵—were not operating nearly as strongly in the 'thirties. Therefore, the fact that there was more money and less money-income in 1937 than in 1929 indicates a large growth in the money supply.

Moreover, it seems to me (though Dr. Warburton will doubtless disagree) that the true state of the money supply in those years cannot be measured by the quantity of money alone. The large growth of member bank excess reserves and the low rates of interest show that the quantity of money could have been much larger. Hence, for purposes of the present problem, Dr. Warburton's statistics understate the money supply and overstate its velocity. Some fraction (or multiple) of the excess reserves could be regarded as idle money.

5. Concerning policy, Dr. Warburton says, "A compensatory fiscal policy, carried out in a manner producing appropriate effects on the quantity of money, may be an antidote to a dose of improper monetary policy; but with proper monetary policy exercised through ordinary central bank operations, an antidote will not be required."¹⁶

As the arguments for and against the effectiveness of monetary policy have occupied a large part of the literature of the last twenty years, it would not be profitable to review them here, but two observations may be made. First, most economists would blame the downturns of 1920 and 1937 more on fiscal policy than on monetary policy. In both cases the balancing or overbalancing of the federal budget was a major factor. Second, the extreme form in which Dr. Warburton has stated his position appears to be untenable. He gives the appearance of believing that cyclical downturns can be avoided simply by pursuing an easy money policy. If this be a misinterpretation, it is one to which his remarks are open and should be corrected.

The experience of 1920 and 1929 shows that continuance of easy money would probably have been just as disastrous, if not more so, than the restrictive policies actually adopted. Easy credit might have permitted the inventory boom of 1919-20 to continue a while longer, but it is not likely that a smooth transition to a slow rate of inventory

¹⁵ *Ibid.*, p. 444.

¹⁶ *American Economic Review*, March, 1948, p. 134.

accumulation could have been effected, especially in the face of the decline in export markets. The first evidence of coming deterioration of the price level would (and did) end new investment in inventories and initiate cyclical contraction. In 1929, credit expansion could have helped business only at the cost of furthering the stock market boom and making the crash so much the worse. Conversion of paper profits into realized losses as brokers demanded more margin was bound to have serious effects on both consumption and investment. In boom times monetary policy is up against the familiar dilemma that action to curb excesses containing the seeds of depression may fatally injure legitimate business. In such cases, "ordinary central bank operations"—to use Dr. Warburton's phrase—are insufficient.

THE LEARNED HANDMAIDENS OF AMERICAN CAPITAL.

A Survey of Literature*

By A. AYZENSHTADT

Translator's Preface

The United States and its economists have become quite a popular subject in the Soviet economic literature since the end of the war. A number of books have been published (particularly by the former Institute of World Economy and World Politics), and hardly a journal issue comes out without at least one article devoted to economic conditions and economic thinking in the United States. A study of these writings offers the American economist the unique pleasure of seeing himself and his environment in a peculiar mirror, though the images, to put it mildly, may often cause surprise; it also gives him valuable information both for the understanding of the Soviet Union and for the understanding of himself.

The article translated here appeared in the July-August (No. 4) 1947 issue of the Soviet journal *Planned Economy* (*Planovoye Khozyaystvo*), which is published bi-monthly by the State Planning Commission (Gosplan). It was selected for translation because of its interest: in a rather short space, the author covers some of the most important ideas discussed in Western economic literature in the works of Schumpeter, Hansen, Keynes, Ezekiel and others. The interpretation of these ideas by a Soviet economist is most instructive. But I hope the reader will avoid the error so often made by Soviet economists in regard to our own literature, that is, of treating this article as *the* official pronouncement on the subjects covered. Though the range of economic opinion in the Soviet Union is much more narrow than in the United States, differences as witnessed by sharp debates (such as the Varga discussion) do exist. Mr. Ayzenshtadt's essay is not unrepresentative, though possibly it is more imaginative than the average. Yet I earnestly hope that the reader will abstain from generalizing too readily about Soviet economic literature on the basis of this *one* paper. Translations of Soviet economic works are beginning to appear; perhaps this article will be followed by others. There will be plenty of time for generalizations.

A few remarks about Soviet economic periodicals may help to set this paper in its proper perspective. The so-called professional journals in this country are essentially written by economists for economists. The Soviet economic periodicals, on the other hand, concentrate not so much on the development of economic science as such, but rather on the interpretation, with a definite political objective, of economic and statistical information for a more general audience. In his interpretation of economic facts and ideas, the Soviet economist is not supposed to treat his material with impartiality and objectivity; the latter word has acquired an invective meaning in the Soviet Union. His rôle is that of an intellectual crusader, actively engaged in the building of socialism at home and in combating its opponents ("unveiling" is the favorite term) abroad. Yet an economist cannot help being a scientist,

*Translated by Evsey D. Domar, associate professor of economics, The Johns Hopkins University.

at least to some extent, and the conflict between the two rôles—crusader and scientist—has been sharp. The recent denunciations of so many books on economics and statistics (also on philosophy, history, and biology) published in the Soviet Union since the war, show that the conflict is far from being resolved. The present paper, however, does not appear to bear any marks of this conflict.

Since the subject matter of Mr. Ayzenshtadt's paper is rather controversial, I endeavored to steer as close to the original as I could. To replace the author's translations of English passages, I tried to use the originals, rather than to re-translate them into English whenever his translations were reasonably close to the originals and a proper reference was given or could be easily found. In other cases the techniques used were stated in the footnotes.

When a translator, who happens to be an economist himself, works on a paper like the present one, there is an urge (for reasons which will presently become obvious) to start an argument with the author. I felt, however, that such an attempt on my part would destroy the unity of the article and spoil the fun for the reader, who might like to do it on his own. Therefore my notes were limited to a few easily ascertainable and trivial points. For the rest, let the article speak for itself.

E.D.D.

The present state of thought among bourgeois economists is a reflection of the conditions in which the bourgeoisie finds itself in the era of the general crisis of capitalism, when due to the Second World War, capitalist contradictions have become particularly acute. More and more frequently, "investigations" of bourgeois economists are aimed at finding ways of overcoming these contradictions and of averting crises, in order to save capitalism from its imminent destruction. All these investigations exhibit the complete bankruptcy of the bourgeois economic "science," its inability to understand the real contradictions of the capitalist society, and the hopelessness of the bourgeois economic prescriptions for rescuing capitalism. The vulgar, apologetic meaning of all these theoretical constructions acquires an ever stronger reactionary character;¹ it demonstrates the irrefutable fact that the contemporary bourgeois political economist is merely the learned handmaiden of monopolistic capital who is assigned the task of constructing "scientific" foundations for the capitalist reactionary policies against the working class, and for the capitalist-imperialist expansionist aspirations.

And if some contemporary bourgeois economists speak about the contradictions and instability of the capitalist economic system, they do so only because these contradictions are already so obvious that they can no longer be concealed. Their admissions are significant only to the extent that they bear witness to the bankruptcy of the bourgeois political economy which can deny no longer the crying contradictions of capitalism, the harmony of which it had extolled over many decades. But these same economists firmly cling to their reactionary positions and insist on the retention of capitalism as such, and of the system of enslavement and oppression of the toiling masses based on it. Those who dare to mention the question of capitalist contradictions

¹Translator's note: The word "vulgar" is evidently used here as it was used by Marx, in the sense of popular, superficial, shallow.

make every effort to minimize them; and in particular they avoid using the word "crisis."

One of these authors is an American professor, Benjamin Higgins. Here is what he says:

Our economy at war's end may be likened to an acrobat performing on a very thin wire called "economic stability." On one side yawns the Abyss of Depression, on the other roars the Volcano of Inflation. The performer is blindfolded, his faltering footsteps guided by shouts from a crowd of professional economists, legislators, and voters who together formulate economic policy. The acrobat is hampered in his movements by the long pole in his hands, weighted at one end with "excess purchasing power" and at the other with "excess saving," which he raises and lowers in response to the cries that are loudest. After the last war, our acrobat seemed in danger of falling into the Abyss, gave more weight to "purchasing power" and fell into the inflationary volcano instead; subsequently plunged into the Abyss in an attempt to compensate, rebounded, maintained his equilibrium for a few years, but, his strength meanwhile giving out, he collapsed into the Abyss in 1929 and only a *strong draft of "major war" revived him.*²

Higgins does his best to avoid using the term "crisis," replacing it by the concept of a "depression." This is a favorite method of bourgeois economists, in their attempt to eliminate crises from the analysis of the capitalist cycle. At the same time, Higgins finds the causes of this "depression" in a superficial relation between "excess purchasing power" and "excessive savings," thus completely avoiding the question of class contradictions in the bourgeois society.

Other bourgeois economists echo Higgins. Thus Leon Henderson writes in his report on "Enterprise in Postwar America":

There are several targets that are set. There is one target which ought to be in front of us all the time, and that is the target of the disaster of the thirties; the stagnation and our failure to find a way out of our difficulties. No matter what our status is, no matter what we are in the way of policy maker or policy receiver, we should be constantly thinking of how ashamed we should be that it took a war and seven and a half billion dollars per month of spending before we could have full employment. That is a target anybody can shoot at.³

Thus these "strong words," like "shame," "targets," etc., are used only to emphasize the author's desire to defend from fire the unmasked "target" of capitalism.

* * *

² Benjamin Higgins, "Public Work and Our Postwar Economy," *Postwar Goals and Economic Reconstruction. Addresses Delivered at the Second Series of Conferences of the Institute on Postwar Reconstruction* (New York University, 1944), p. 73.

Translator's note: The italics in the text are Mr. Ayzenshtadt's.

³ Leon Henderson, "Enterprise in Postwar America," *Postwar Goals and Economic Reconstruction* (New York University, 1944), pp. 16-17.

Translator's note: Mr. Ayzenshtadt's translation of this passage was rather free and made it considerably stronger than the original.

Notwithstanding the fact that some bourgeois economists describe capitalist contradictions more or less frankly, they still hold on to their capitalist positions and make every effort to solve the insoluble problem: how to overcome these contradictions within the framework of the capitalist system. Moving in this magic circle, many of them invariably arrive at reactionary conclusions in which the apologetic character of the bourgeois economic thought clearly manifests itself.

Particular attention is devoted by bourgeois economists to find ways of "curing" capitalism of its crises. The *Readings in Business Cycle Theory*, published by the American Economic Association in 1946, is very significant in this respect.⁴ The problems of employment and of crises occupy the center of the stage. The authors are American followers of Keynes.⁵ Their aim, to use their own expression, is to "iron out" the industrial cycles, or at least to mitigate them.

"The business cycle was *par excellence* the problem of the nineteenth century," says A. Hansen. "But the main problem of our times, and particularly in the United States, is the problem of full employment" (p. 370). The two problems are indissolubly connected. If industrial development took the form of a continuous stream, says Hansen, the problem of "full employment," would be settled once and for all. The sizeable volume of 494 pages, composed by Hansen and his associates, is devoted to an effort, which—as one should have expected—proves to be completely fruitless.

The essays composing the volume were written during the period 1923 to 1941, and thus cover three cyclical crises: 1921, 1929 and 1937. (The book itself came out in August, 1946.)

Of the twenty-one essays, only three are directly concerned with the theory of crises. The others analyse Keynes' theory about a "planned" state capitalism and full employment as "universal measures" against crises.⁶

The first three essays are reprints of older articles. They try to propagandize the bourgeois apologetic theory of "long cycles," a theory discredited in the USSR a long time ago.

The reader is aware that this notorious theory of "long cycles" represents an attempt on the part of the outrageous defenders of capitalism to "refute" the irrefutable fact that capitalism develops through periodic crises of over-production which repeat themselves every seven to ten years.⁷

It is for the specific purpose of describing capitalist development as a process deprived of the inevitable capitalist crises, that American economists

⁴ Translator's note: The volume was published in 1944. The author evidently had a copy printed in August 1946.

⁵ Translator's note: Some of the authors, such as Schumpeter, Kondratieff, or Haberler might decline this honor. Of the twenty authors, at least six could not be possibly classified as American. Of the remaining fourteen, as far as I know, only seven are *not* of foreign background.

⁶ Translator's note: Eight essays are not concerned with Keynes, seven of them having been published before 1936.

⁷ Translator's note: The theory in question belongs to Nikolai D. Kondratieff, a Russian economist whose name should undoubtedly be familiar to Mr. Ayzenshtadt.

have found it necessary to rescue from oblivion the "long cycles," in which the true cyclical character of capitalist development is "straightened out" and dissolved.

It is quite significant that we find the German economist Joseph Schumpeter, who is now doing such great things at Harvard University, in the role of the newly ordained preacher of this apologetic theory of "long cycles." Not satisfied with the "scheme of three cycles" (long, medium and short), Schumpeter, in his paper "The Analysis of Economic Change," invents still another one—the "theory" of "secondary cycles." The real purpose for which these "secondary cycles" are invented is the same as for the "long" ones: to conceal the true cycles which are connected with the crises. Economic life is thus transformed into an uninterrupted flow of small oscillations, a continuous vibrating movement without such shocks as crises. Schumpeter considers it possible, with foreign markets and Free Trade, to "iron out" the crises in the United States, which, according to his own admission, take a much more violent form than those in England.

Another author, Hans Neisser, who found refuge at the University of Pennsylvania, revives Say's Law regarding the impossibility of general overproduction. ". . . Say's contention of the impossibility of general overproduction," says Neisser. "seemed contradicted by the recurring experiences of severe crises" (p. 385).

Neisser, however, easily removes this contradiction by postulating the possibility of partial overproduction in both the spheres—of the production of consumer goods and of the production of means of production. He finds the remedy to this situation in foreign markets. In terms of concrete policy, this means that American imperialism can escape crises by conquering an ever larger number of foreign markets.

* * *

The central figure of the volume is Keynes. Eighteen papers are devoted to the analysis of his theory. The whole discussion is concentrated around his name.

What is the explanation of the influence that he exerted on world bourgeois economic thought, and particularly on American economists and American economic policy during the war? The explanation lies in the fact that Keynes' vulgar theory of the stimulating effects of investment leads to the conclusion that the cost of the increased investment should be borne by the working class. Keynes transformed economic theory into a powerful weapon of economic policy to be used by the bourgeois state against the toiling masses.

His point of departure is the presence of large unemployment, which is characteristic of the period of the general crisis of capitalism. His central idea is that the level of employment depends not on the conditions of capitalist production, but on the accumulation of money capital and on the magnitude of investment. All of Keynes' flimsy arguments ignore the process of capitalist production as such; attention is concentrated on the process of circulation only. This is the reason why Keynes' whole analysis has such a superficial, vulgar character.

Marx had foreseen the possibility that superficial bourgeois economic thought would suffer from such an optical illusion. Analysing the process of reproduction and circulation of total social capital Marx wrote that money capital "is the form in which every individual capital appears upon the scene and opens its process as capital. It therefore appears as the prime promoter, giving the first impetus to the entire process."⁸

Still more strongly does Marx reprove this sort of nearsightedness on the part of bourgeois political economy in his chapter on "The General Law of Capitalist Accumulation": "The superficiality of Political Economy shows itself in the fact that it looks upon the expansion and contraction of credit, which is a mere symptom of the periodic changes of the industrial cycle, as their cause."⁹

Even the greatest admirers of Keynes and of his theory that loan capital is the main propeller of the industrial cycle, do not see anything new in it. "As most theories of business fluctuations, in their explanation of changes in employment, concentrate attention on changes in the volume of investment, Keynes' emphasis on this latter point is not new."¹⁰

Keynes himself thinks that the "novelty" of his system lies in the equilibrium formula of the economic process, in which the independent and dependent variables are arranged as follows:

Independent variables

1. Propensity to consume
2. Marginal efficiency (profitably) of capital
3. Rate of interest
4. Liquidity preference

Dependent variables

1. Saving
2. Investment
3. Level of employment

When the marginal efficiency of capital is low, the capitalist prefers to hold his wealth in liquid form rather than to invest it. Enter the worker, who tightens his belt, abstains from his propensity to consume, and accumulates his savings. As a result, money, and hence loan, capital increase, the interest rate falls, the cost of credit slides down almost to zero; now investment goes up and so does employment. Thus the worker himself has provided the funds for his own exploitation. Having rendered the surplus value to the capitalist once before, he now takes off an additional portion of his wages to invest it in production.

Thus the "curbing of the propensity to consume" applies not to all social

⁸ K. Marx, *Capital*, Vol. II (1936 ed.), Chap. XVIII, p. 306. Translator's note: In the American Kerr edition, this quotation appears on p. 408.

⁹ K. Marx, *Capital*, Vol. I (1936 ed.), Chap. XXIII, p. 540. Translator's note: In the Kerr edition, this quotation appears in Chapter XXV, p. 695.

¹⁰ Bertil Ohlin, "Some Notes on the Stockholm Theory of Savings and Investments," *Readings in Business Cycle Theory* (Philadelphia, 1946), p. 125.

classes, but to workers only. The formula for the increment of income is constructed by Keynes in the following manner: increment of income = increment of consumption + increment of investment.

Income, consumption and investment are expressed by Keynes in wage units. A wage unit is the payment for a unit of labor, for an hour of common (unskilled) labor. The payment for an hour of this labor is the wage unit used by Keynes as a common denominator. Keynes expresses not only the income of workers, but that of capitalists as well in terms of this unit; thus he is able to misrepresent the real essence of class relations in a capitalist society.

The increment of saving is also expressed in terms of this "wage unit." In general, Keynes defines saving as the difference between income earned during a certain period and consumption of the same period.

The main purpose of all this theorizing is to find a method for curbing the "propensity to consume" of the working class. With this aim in mind, Keynes introduces a new concept—the "investment multiplier" showing that as saving and investment increase, income rises at a faster rate than investment.

It is this situation that is supposed to induce the worker to part with his savings.

Keynes' theory is constructed as a special equilibrium system which does not allow for sudden explosive crises. Keynes asserts its universality and its continuous effectiveness throughout the whole period of the existence of capitalism.

The system is peculiar in the sense that its equilibrium depends on factors which are very unstable by themselves. Besides the objective factors—the rate of interest and the marginal efficiency of capital (*i.e.*, that profit level below which the bourgeois does not wish to descend)—two subjective or psychological factors are operating as well: the liquidity preference and the propensity to consume. The former means that the capitalist prefers to hold on to his money, because he fears risking it in investment; the latter, that the worker must combat his propensity to consume in order to throw his money into production. Both are factors not easily determined and regulated.

Keynes, though regarding himself a "great revolutionary," admits with perfect frankness that his theory aims at preservation of capitalism. ". . . The foregoing theory is moderately conservative in its implications. For whilst it indicates the vital importance of establishing certain central controls in matters which are now left in the main to individual initiative, there are wide fields of activity which are unaffected," says Keynes in the chapter on the social philosophy to which his "General Theory" might lead.¹¹

According to Keynes, the regulatory activity of the bourgeois state should first of all extend control over saving, and secondly, it should "socialize investment."

¹¹ J. M. Keynes, *The General Theory of Employment, Interest and Money* (New York, 1936), Chap. 29, "Social Philosophy towards which the General Theory might lead," p. 377.

But the phrase "socialize investment" is just empty chatter, since Keynes defends the inviolability of private ownership in the means of production.

. . . It is not the ownership of the instruments of production which it is important for the State to assume. If the State is able to determine the aggregate amount of resources devoted to augmenting the instruments and the basic rate of reward to those who own them, it will have accomplished all that is necessary (p. 374).¹²

That the state should be used as the weapon for forcing a reduction in the consumption of the toiling masses, and for guarding capitalists' profits is the real meaning of all of Keynes' "social philosophy" and all his so-called "socialization of investment."

During the war, Keynes came into the open. In his pamphlet *How to Pay for the War* he directly and frankly posed the question not as "how" to pay, but as "who" shall pay. He further stated that the rich could not pay. It is clear then that the working class must pay. A whole chapter was devoted by Keynes to this question.

His plan contains the famous theory of compulsory saving, which was carried into effect not only in England, but also in Canada and in the United States. A direct quotation will show how Keynes justifies the necessity of financing the war at the expense of the workers:

. . . It is not sane to suppose that the war can be financed without putting some burden on the increased war incomes of the class with £5 a week or less. . . . The incomes of this group will have increased on the average by some 15 per cent as a result of the war. Is it seriously expected that those with less than £5 a week will be allowed to increase their average consumption by 15 per cent, while those with more than £5 (for example with £1 million—A.A.) a week will be left on the average with only a quarter of their incomes to consume?¹³

Keynes' plan is an offensive against the standard of living of the working class. It is a bourgeois program which strives to burden the working class with the whole weight of the costs and losses of the war and of the crises.

* * *

The leader of American Keynesians is Alvin Hansen. We should note, however, this difference: for Keynes, the movements of saving and investment are secondary factors, the primary ones being the "propensity to consume," and the "liquidity preference"—both purely psychological. For Hansen, on the other hand, it is the periodic accumulation and exhaustion of loan capital that is the cause of the fluctuations of the industrial cycle.

Hansen's main proposition is that full employment and the maximum level of income that can be achieved in a contemporary private enterprise economy, are impossible without a sufficient volume of investment—sufficient, that is,

¹² Translator's note: I found this passage on p. 378.

¹³ J. M. Keynes, *How to Pay for the War, A Radical Plan for the Chancellor of the Exchequer* (London, 1940), Chap. IV, "Can the Rich Pay for the War?", pp. 25-26.

to fill the gap between consumer expenditures and that level of income which a full utilization of all factors of production can produce.¹⁴

To raise the effective demand (purchasing power) through increased investment and thus to achieve full employment—this is Hansen's program, echoing Keynes word for word.

Compensatory action against cyclical fluctuations should be undertaken by the state budget in the form of "deficit financing." This paradoxical and absurd conception of the sources of funds has earned a prominent position in American economic literature. Hansen has developed his theory of deficit financing, *i.e.*, of an enormous growth of the public debt, at considerable length in a number of pamphlets published while he was a member of the National Resources Planning Board.

In a pamphlet entitled "After the Defense—What?", Hansen develops the idea that a continuously growing public debt allegedly creates full employment and prosperity.¹⁵ Financial costs can be disregarded, because, if maximum production and full employment can actually be achieved, the rise in production will pay for the needed expenditures: "doing the job pays the bill." In other words, it is not a question of money, but of manpower, material resources and organization. Hansen is confident that a full realization of the productive potential in a capitalist society is possible; therefore the government should engage in ever larger expenditures to stimulate production. He is also confident that "every cent expended, public or private, becomes income for the members of our society. This conception apparently explains," says Hansen's critic Moulton, "the statement of the National Resources Planning Board that costs are of no significance, that 'doing the job pays the bill.' Since the receipts are necessarily identical with the disbursements everything is satisfactory: cost equals income; and income equals cost."¹⁶

Here Hansen revives the erroneous notion of Adam Smith identifying total social product with national income, a notion long since discredited. Identifying production with income, Hansen seeks to solve the problem of crises by public investment and an unlimited growth of the public debt. To replace the expression "treasury deficit covered by borrowing," which would reveal the essence of his budgetary policy, Hansen has coined a vague but well-sounding term "net income-creating expenditures."

The "novelty" of Hansen's theory simply is that debts need not be paid. In other words, this is a "theory" of state bankruptcy raised to the level of a system. In an article published in *Fortune* in November 1942, Hansen tries to show that the public debt is not really a debt.

¹⁴ Alvin H. Hansen, "Economic Progress and Declining Population Growth," *Readings in Business Cycle Theory* (Philadelphia, 1946).

¹⁵ Translator's note: This pamphlet was published by the National Resources Planning Board in 1941. It does not bear Hansen's name and I understand from him that he did not write it. Perhaps the author referred to another pamphlet—*After the War—Full Employment*, which was published under Hansen's name in 1942.

¹⁶ Harold G. Moulton, *The New Philosophy of Public Debt* (The Brookings Institution, 1943), p. 60.

This means that mutual credits of capitalists must be honored, but the state need not repay its debts to the people. Thus the public debt becomes simply an instrument of the bourgeois state for robbing the toiling masses. This is the class essence of this new-fangled "theory" of the unreality of the public debt.

Naturally, this "theory" of the public debt has found followers who have carried it to absurdity. Thus, Professor Seymour Harris writes:

. . . A public debt of \$4,000 billion was compatible with the maintenance of the capitalist system. . . . It is conceivable that a debt of these proportions could be accumulated over a period of 50 to 60 years, without the emergence of a serious inflation. . . . The major part of the debt would be financed out of savings, not out of the creation of further new debt.¹⁷

The achievement of the astronomical figure of 4,000 billion dollars (the war debt did not exceed 258 billions) appears to Harris to be possible within the capitalist system, since a method has now been found for "overcoming" the crises in the growth of the public debt itself.

This approach is not at all new. It had been tried before. Let us recollect what Marx had to say about Pitt's financial policy:

The idea of capital as a self-reproducing and thereby self-expanding value, lasting and growing eternally by virtue of its inherent power . . . has led to the fabulous fancies of Dr. Price, which far outdo the fantasies of the alchemists; fancies, in which Pitt seriously believed and which he used as pillars of his financial administration in his laws concerning the sinking fund.¹⁸

Under the pressure of military necessity, the American government had to find salvation in an ever-growing public debt, just as Pitt did in his time. It is impossible, however, not to be amused at the philosophising of Hansen and Harris which exactly repeats, after 150 years, the fantastic fabrications of Dr. Price.

It is true, nevertheless, that Hansen realizes all the inconvenience of debt repudiation, particularly for a country as wealthy as the United States. He has therefore come up with a new variety of compensatory policy, this time not based on borrowing.

This policy seeks to solve the crisis problem by adjusting the government budget to business fluctuations. During prosperity, the government should accumulate a surplus, and then spend it when depression comes. The application of this policy Hansen prudently restricts to state and local governments; they are the ones to set up reserves in anticipation of a crisis.

This theory has had considerably less success than the "new philosophy

¹⁷ Seymour E. Harris, *The Economics of America at War* (Harvard University, 1943), pp. 383-84.

Translator's note: The last sentence was translated by Mr. Ayzenshtadt as follows: "The major part of this debt can be covered by savings without a repayment of previous debts at the expense of new ones." The book was published by W. W. Norton & Co., Inc.

¹⁸ K. Marx, *Capital*, Vol. III, Part I (1932 ed.), p. 279. Translator's note: In the Kerr edition, this quotation appears in Vol. III, Part V, pp. 463-64.

of the public debt" for two reasons: (1) state governments have deficits anyhow, and local governments have to borrow frequently; (2) attempts to induce workers to set up surpluses in the budgets of their local governments, over and above compulsory savings, cannot be successful; as for the propertied classes, they have protected themselves with the "liquidity preference."

Professor Benjamin Higgins, quoted above, writes that 38 states have created "planning boards for post-war public works." But not a single state set up the needed reserves. Projects worth 18 billion dollars have been submitted to the Federal Works Agency, which in turn distributed them among its regional offices. "They are reposing there gathering dust."

This is just one of the numerous manifestations of the helplessness of the bourgeois economic science, and of the inability of capitalism to engage in economic planning.

* + *

The volume *Readings in Business Cycle Theory* ends with Ezekiel's paper under the significant title of "The Cobweb Theorem."

In essence, this is a discussion of the chronic world agricultural crisis which accompanies the general crisis of capitalism. Ezekiel, however, bypasses this problem. He narrows down his topic to a study of "laws of commodity price movements which are subject to their own fluctuations, independent of the general industrial cycle. Such are prices of agricultural products."¹⁹

These prices, following laws of their own, are established, according to Ezekiel, at the exact point of intersection of demand and supply. Numerous diagrams illustrate the formation of prices of bacon, corn, but particularly of hogs; the last case is furnished with a lengthy bibliographical list of the works of German economists who preceded Ezekiel. The theory of price determination as a result of interaction between supply and demand belongs to Marshall, whose student Ezekiel is.

Ezekiel calls his diagram the "Cobweb Theorem," because the intersecting curves of supply and demand create a pattern similar to a cobweb.²⁰ Establishing his "hog prices prognosis" in this manner, Ezekiel adds, to all preceding psychological and mathematical theories, one more fantastic explanation of reality, this time in the garb of a cobweb.

We may say that this "Cobweb Theorem" is, in a sense, a symbol uniting all theoretical models of the *Readings in Business Cycle Theory*. This theorem beautifully characterizes the complete theoretical helplessness of the bourgeois economics, its complete inability and unwillingness to find a scientific explanation of those basic contradictions in which capitalism is enmeshed.

All these constructions are cobwebs which fly to bits as soon as they are touched by scientific critique. And yet, the cobweb is being continuously

¹⁹ Translator's note: I re-translated this quotation into English. No page was given, and I could not find the corresponding passage in Ezekiel's paper.

²⁰ M. Ezekiel, "The Cobweb Theorem," *Readings in Business Cycle Theory* (Philadelphia-Toronto, 1946), p. 422.

re-created, because inside of it there is a live beast—the spider—monopolistic capital.

The tragedy of the situation is realized by the author of the "Cobweb Theorem" himself. He concludes his essay with these words:

The cobweb cycles (not to any lesser degree than other fluctuations analyzed by Keynes) prevent the system from reaching its most effective utilization of resources.

The contemporary system is not an automatic self-regulating mechanism, which can provide full utilization of resources. Unemployment, excess capacity and wasteful use of resources—these are its constant companions.²¹

Thus does the bourgeois economic thought, attempting to solve the "full employment" problem, confess to the hopelessness of its theoretical constructions. And yet, over one-sixth of the globe, the problem of full employment, which the bourgeois economists are hopelessly tackling, has long since stopped worrying man's mind. Here the solution is re-enforced in the words carved in granite of the 118th section of the Stalin Constitution: "The right to work is guaranteed by the socialist organization of the people's economy, by the inevitable growth of the productive forces of the Soviet Society, by the elimination of economic crises and by the liquidation of unemployment."

* * *

In their quest for ways of preventing crises, contemporary bourgeois economists do not stop at internal measures only. Exceptionally high hopes are reposed in the imperialistic expansion of monopolistic capital. The intensification of the expansionist policy of American imperialism after the second World War and its drive for world domination are reflected not only in the notorious "Truman Doctrine" and "Marshall Plan," but in the theoretical constructions of American economists as well.

Two books, published simultaneously under nearly identical titles are significant in this respect. The first—*American's Place in the World Economy*—belongs to the New York University Institute on Post-war Reconstruction; the second—*America's Role in the World Economy*—was written by Alvin Hansen, with whom we are already familiar. Hansen's book is mostly concerned with the accumulation of money capital in the United States, and with the possibility of transforming it into real capital by means of capital exports. The New York University volume is mainly devoted to the second part of the problem—capital exports and their prospects.

Clarence Senior (the expert on "Pan-American" economics) states the problem very categorically:

We are doubly armed for the penetration of other countries. First of all our role as suppliers of machinery and technique is facilitated by the fact

²¹ Translator's note: Ezekiel does not conclude his essay in this manner. Several sentences can be found on his last page (p. 442) which, when put together, approximately yield this quotation. The last five words are an exception. As far as I can tell, their authorship belongs solely to Mr. Ayzenshtadt. It seems to me that this conglomeration of sentences with a new ending has produced a stronger and different effect than the one intended by Ezekiel.

that after the war we will have about half of the productive capacity of the world, plus outstanding institutions for technological training. Secondly, we are equipped to play our role as investor by the possession of more than half (more correctly $3/5$, i.e., 21 billions out of a total of 35) of the world supply of gold; plus a tremendous capacity for capital formation. In the early postwar years, most of Latin America will not need government loans; but long-range development projects are needed and are being planned in all of the countries to the South.²²

A wide field for the utilization of American capital and for the strengthening of American claims to world domination is found by Morgan Lewis in his proposed construction of a transcontinental railroad, crossing the whole American continent and connecting United States with Central and South America. This transcontinental railroad, nine thousand miles long, is aimed at the "acquisition of natural resources of the wealthiest countries of South America. It will be inconvenient, of course, to finance this line by United States government appropriations; it should be therefore financed by private investments"—and thus create ample scope of action for United States monopolies.²³

The scope of Lewis' imperialistic ambitions is very broad indeed. To recover the cost of the construction of this railroad, he suggests the following operation: Large, uninhabited areas in South America, which according to his estimates, stretch for hundreds of square miles, will be purchased and then re-sold at a profit (their prices having been sharply raised by the railroad). This operation, undertaken by United States capital, should cover all the costs of this great expansionary plan in South America, and leave a handsome profit besides.²⁴

Hansen approaches the problem somewhat differently. First of all he establishes the fact that the 21 billion dollars worth of gold "sterilized" and buried in the basements of Fort Knox²⁵ is unprofitable by itself, while its

²² Clarence Senior, "A Realistic Approach to Postwar Cooperation," *America's Place in the World Economy* (New York University, 1945), p. 244.

Translator's note: I re-translated the quotation trying to use as many of Mr. Senior's original sentences as I could find. The statement as a whole does not appear on p. 244. There are scattered sentences on pp. 243-44 conveying approximately the same idea.

²³ Morgan J. Lewis, *Key to a New America* (American Progress Association, Philadelphia, 1941), p. 11. Translator's note: See Note 24.

²⁴ Translator's note: Page 11 of Lewis' book does not contain the quotation referred to in note 23. The railroad uniting the Americas is discussed in Chapter XIV, pp. 89-99. The nearest quotations I could find on the two questions touched upon by Mr. Ayzenshtadt are as follows:

"There probably are some inter-governmental reasons why the United States government could not build this super railroad to the southern countries, but there is no reason why a private corporation, financed with American money and some money from the citizens of the countries it would run through, could not finance it" (p. 91).

"There are some uninhabited sections in South America one hundred miles square that could be purchased from the governments now owning them. The natural resources from these regions could be sold at a profit which would more than pay for the 9000 miles of a Super International Railroad" (p. 93).

²⁵ Fort Knox is a fortress where the American Treasury stores its gold under double guard.

main function should be the balancing of international accounts. He writes:

... This is, in effect, what happens when foreigners pay us for excess exports in the form of gold. The gold is purchased by the Treasury and thus dollars are made available to foreigners with which to pay for the excess American exports. To be sure, the Treasury has obtained gold, but buried in Fort Knox it is of doubtful value. It is, of course, true that the Treasury can very neatly get out of its own difficulty by depositing the gold, or rather gold certificates or gold-certificate credits, with the Federal Reserve Banks, thereby receiving in return a balance at the Federal Reserve Banks. By so doing, the excess of American exports is financed not by the taxpayer but by an extension of Federal Reserve credit. It is, in fact, paid for by a multiplication of the money supply.

It is not to be wondered at that the gold purchase business, as a means of financing excess American exports, looks like hocus-pocus to many people. Some would prefer to go straight to the heart of the problem and finance excess American exports through an expansion of Federal Reserve credit without buying the gold and storing it away in Fort Knox. . . ."²⁶

Here Hansen actually develops his theory of deficit financing (or credit expansion) into a world law. Not only exports of goods, but export of capital as well, can be financed by expansion of credit. "The aggravation of the saving-investment problem can be avoided by deficit financing acting like a force pump on a world scale."²⁷ Hansen's position is perfectly clear: the creation of an international currency fund, with the United States playing the leading part, will, according to him, initiate such a "force pump" policy in which the United States, as the principal disbursing of world credits, will be the primary moving force.

But here Hansen prefers to hold his peace on two points: first of all, the huge reserves of world currency in the form of gold accumulated by the United States are not at all unimportant for that country, as the principal partner of the world currency fund. Secondly, the policy of a world "force pump" can become, and actually has already become, a method of subjecting other countries to political pressure in order to subjugate their economies to American monopolies.

With frankness and a cool head, the problem of United States world expansion is analysed by a professor of Washington University, George Taylor, whose sensational book *America in the "New" Pacific* published by the Institute of Pacific Relations has gone through five editions.²⁸ In Chapter VII eloquently entitled "Asia for Whom?" he writes:

America has to lead in the Pacific because that is what the war is about. There is no room in the Pacific for both the American and the Japanese type of expansion. Conflict with Japan was the logical result of a century of policy.

²⁶ Alvin H. Hansen, *America's Role in the World Economy* (New York, W. W. Norton, 1945), pp. 142-43.

²⁷ Translator's note: No page given, I re-translated this passage into English without checking.

²⁸ Mr. Ayzenshtadt evidently means five printings. The book was originally published in 1942.

Calling things by their proper names, Taylor lifts the curtain over the pre-war American policy in Asia:

In the XIXth century the policy of United States in Asia was directed towards strengthening Japan when Russia tended to become too powerful, and conversely, to support Russia when Japan gained strength, at the same time preventing too great a weakening of China. United States used its influence to prevent the growth of Russian and Japanese influence in Manchuria.²⁹

United States and Britain, says Taylor, aimed at "training Japan for the role of Asia's policeman."

With equal clarity, the ideologists of American imperialism also approach the Near and Middle Eastern problem. Elliot thinks that "the United States is the most remarkable country in the world, having accepted a 40 billion dollar lend-lease debt without any real prospects for its repayment."³⁰ As a compensation, he demands the participation of United States government in loans extended to other countries for productive purposes. This particularly refers to countries which are in the British "sphere of influence."

. . . There is, for example, no reason why we should not go into Iranian or Middle Eastern oil with our eyes open, if we go in at all, and ask for a definite governmental share as a method of underwriting loans. The British Government owns such shares now; and without our joint support this area, important as an oil area for both our navies and our airlines, may well be at the disposal of governments under other domination. United States should become the silent partner of the British Empire.³¹

Taylor goes further than Elliot. According to him, the United States should become more than a silent partner of the British Empire: it should replace it. In this process, the United States "will naturally lose its democratic appearance."³²

Taylor not only demands the liquidation of all remnants of democracy in the United States; he also presents a program for "the export of the ideas" of American imperialism.

According to him, "the United States is engaged, first of all in the . . . export of ideas. The concepts of family, Christianity, of individual rights—all these," says Taylor, "have revolutionized Asia."

The United States has exported its economic philosophy, according to which the whole of humanity (and first of all of course—the United States—A.A.) has a right to a free access to world supplies of raw materials . . . and also

²⁹ Translator's note: No page being given, I re-translated this passage without checking it.

³⁰ For source, see note 31. No page was given for the present quotation, and therefore I re-translated it without checking. Several sentences approximating its meaning can be found on pp. 196-97.

³¹ William G. Elliot, "An American Estimate of Britain's International Economic Position," *America's Place in the World Economy* (New York University, 1945), p. 197.

Translator's note: The last sentence does not appear in the original quotation, though the idea itself is expressed on p. 198.

³² Translator's note: No page given, I translated it without checking.

according to which the state derives the greatest benefit from free enterprise.

The "propelling forces" of this export of ideas are Christianity, Civilization and . . . Commerce, or the three C's.

Thus, the export of ideas is accompanied by the export of goods; Christianity plus Commerce, or more correctly, Christianity as one of the objects of commerce. Here Taylor finally does away with the garb of hypocrisy, and the true aim of American imperialism appears before us in its real light.

More than any other nation, the United States has relied in the Pacific on the power of ideas. . . . But at the same time it has made full use of American dollars as well as of American gunboats.³³

"Ideas" were thus implanted by means of dollars and gunboats. This confession fully illuminates the moving forces of American expansion. And Taylor frankly admits that "the penetration of United States into Asia is very far from the refinements of a drawing room story."³⁴

". . . The United States," says Taylor, "is an imperial power in the Pacific by virtue of the conquest of the Philippine Islands in 1898, the seizure of the Hawaiian Islands and such steppingstones as Midway, Wake, and Guam . . ." (p. 22).

The men, the institutions, the philanthropic and commercial dollars (Christianity and Commerce expressed in dollars.—A.A.) and the energy put into this expansion had an effect which cannot be measured exactly. It is not the number of Christian converts that matter. The fundamental point lies in the world expansion of American influence. . . .³⁵

It is impossible to portray American capitalism in a more naked form than that presented by its preacher Taylor.

Having rejected his democratic positions as if they were excess ballast, Taylor drops them on the way, and, with a "relieved soul and opened eyes," preaches the imperialistic expansion of the United States in the hope that this expansion will save capitalism.

The essence of all these "conceptions" lies in the preaching of an expansionist program for American imperialism. Therefore the exposure of the "ideology" of the adherents of American monopolistic capital is one of the necessary conditions for the peace and safety of peoples.

³³ The quotations in the text are my translations of Mr. Ayzenshtadt's paraphrases of Mr. Taylor's ideas expressed on pp. 22-25 of his book. To what extent Mr. Ayzenshtadt correctly interpreted Taylor's ideas, the reader can judge for himself.

³⁴ Translator's note: No page given.

³⁵ Translator's note: This paragraph, with the exception of the last sentence appears on p. 25 of Taylor's book. The last sentence is stated as follows: "It is not the number of Christian converts that matter, but the widespread acceptance of the American view of life."

COMMUNICATIONS

Professor Friedman's Proposal: A Comment*

Many economists will view sympathetically Professor Friedman's attempt to set forth long-run objectives of economic policy, fewer will look favorably upon the proposal suggested to him by these objectives, but many will quarrel with his analysis of the effects of this proposal.¹ Moreover, consideration of the "Implications of the Proposal if Prices are Flexible and Lags in Response Minor" (Section IV) suggests immediately the following question: what are the implications of flexible prices and frictionless economy in the absence of a "built-in" policy for stability such as that embodied in this proposal? Particularly, it seems questionable if, under such assumptions, his proposal would lead to progress toward the stated objectives beyond that of "discretionary action."

Friedman (p. 254) recognizes that one of the cornerstones for a rational economic program for a free enterprise system is price (including wage) flexibility. Admittedly price and wage rigidities destroy the virtue of the proposal and the "most that can be expected under such circumstances is a reasonably stable or moderately rising level of money income." This seems to me to be somewhat cold comfort. Although Friedman apparently feels that this maximum contribution in the face of price rigidity would have salutary effects on monopolistic practice and hence "make flexibility of prices a good deal easier to achieve," there is evidence to suggest that factors other than general deflation play a larger rôle as cause for such practices.² Furthermore, with rigidities present, and the virtues of the proposal largely non-existent, it is likely that policies not consistent with the proposal would be more effective. The illustration presented by Friedman of the effects of price rigidities (p. 253) in fact shows this to be the case. Assuming a stable economy, reasonably full employment, and wage rates rigid against downward pressure, then a rise in wages of any group requires a higher aggregate money income if employment is to remain stable. But his proposal at this point would bring forth a government surplus (receipts rise by more than

*The author is indebted to Miss Annette Weifenbach and Mrs. G. N. Conly of the Haynes Foundation for suggestions and criticisms during the preparation of this note.

¹ Milton Friedman, "A Monetary and Fiscal Framework for Economic Stability," *Am. Econ. Rev.*, Vol. XXXVIII, No. 3 (June, 1948), pp. 245-64.

² See G. J. Stigler, *The Theory of Price* (New York, 1946), pp. 198-201. Stigler suggests the desire for gain and the desire for power, neither necessarily cyclical in intensity, as the principal motives of monopoly. See also, F. C. Mills, *Price-Quantity Interactions in Business Cycles* (New York, 1946), p. 107. Mills finds price flexibility increasing as deflation progresses.

expenditures) which in turn forces a deflation the consequence of which can only be unemployment, since prices are assumed rigid. Friedman himself suggests the solution. "The only escape from this situation is to permit inflation" (p. 254), but for him there is no escape; discretionary monetary policy which might "permit" the required inflation is taboo. Price rigidities due to contractual arrangements, monopoly, or inertia are an inescapable element of economies for which fiscal and monetary policy must be designed. Price flexibility, even if it were achieved, would yield a full employment equilibrium only under "very special conditions," none of which would necessarily be created by the several elements of Friedman's proposal.³ Thus, policy, to be effective, must at best be designed to contribute substantially to stability in economies in which price rigidities exist, and must at least not be completely ineffective in the face of rigidities.

There is virtue, however, in knowledge of the process by which monetary and fiscal devices bring about results, even though the conditions assumed are heroic. Perhaps knowledge of this process in a simplified setting is a necessary first step in understanding the effects of these devices in the real world, one in which frictions and price rigidities are significant. But Friedman's investigation of the implications of his proposal assuming flexible prices and minor lags contains errors so important that the virtue of his analysis is lost.

According to this analysis, the fundamental correctives for a decline in aggregate demand "are (1) a decline in the general level of prices which affects (a) the real value of the community's assets and (b) the government contribution to the income stream, and (2) an increase in the stock of money" (p. 259). Price decline following a fall in aggregate demand, according to Friedman, will increase the real value of the community's assets, hence increase the propensity to consume, and therefore increase aggregate demand. His faith in this force is sufficiently strong to justify the statement that this force "would alone be sufficient to assure full employment. . . ." But the propensity to consume is not sufficiently sensitive to holdings of real assets to make the required response come about; furthermore, there is evidence that the effects of price decline on expectations is such that the consumption function is adversely affected.⁴

Friedman's second fundamental corrective, an increase in the stock of money, originates from the government deficit created and the fact that the

³ Cf. Oscar Lange, *Price Flexibility and Employment* (Bloomington, Indiana, 1944), pp. 83-85. The consequences of perfect price flexibility on the level of employment provides the basis for much of the controversy between the disciples of Lord Keynes and economists of classical persuasion. The former vigorously deny that perfectly flexible prices will guarantee full employment. The latter have varying degrees of confidence in price flexibility, depending on the extent of the Keynesian "taint." An interesting and thorough discussion of this controversy is to be found in a recent article by Don Patinkin, "Price Flexibility and Full Employment," *Am. Econ. Rev.*, September, 1948, pp. 543-64.

⁴ Cf. Patinkin, *op. cit.*, p. 554, note 19, pp. 557, 558; and Lawrence Klein, "The Use of Econometric Models as a Guide to Economic Policy," *Econometrica*, Vol. XV, pp. 122-25.

proposal requires that the deficit be financed by the issue of money. This increase is assumed first to raise the average propensity to consume in the same manner as price decline raises it (by increasing the value of real assets) and, therefore, to raise prices and aggregate demand until a full employment equilibrium is reached, at which time the deficit ceases to exist and no further increments to the money stock occur. As indicated above, it is doubtful if the propensity to consume will react so as to bring about the results Friedman assumes. In this case, however, there is somewhat more hope that it will, for expectations are unlikely to be severely damaged, but the fact remains that the effect on saving of changes in the value of assets is likely to be small. The proposal precludes increases in the stock of money beyond that created by the automatic deficit. Sharp discretionary increases in money are proscribed. The proposal provides a sop to the more vigorous deficit spenders, but rigidly limits the extent to which the policy may be carried. The process of recovery is based not upon direct increments to aggregate demand resulting from government investment; rather it is based upon the hope (probably vain) that the propensity to consume will increase.

If, however, we make the assumption that there is a direct relation between the propensity to consume and the real value of assets (a questionable assumption at best, but one necessary to Friedman's argument), there is still considerable doubt about the manner in which the anticipated outcome is brought about. Friedman's position, as stated on pages 259-61, is that either falling prices or constant prices and an increased stock of money will increase the real value of assets, hence the propensity to consume and hence aggregate demand.

A decrease in prices (increase in the real value of assets) must be sufficient to raise the consumption function; the magnitude of the adjustment required depends upon the extent to which aggregate demand is deficient. Falling prices may so damage expectations that any rise in the consumption function is offset by decreased investment. In other words, the increase in the propensity to consume would have to be the greater the more responsive investment is to decreasing prices. And, as prices fall, the favorable effect upon consumption will ultimately tend to grow progressively weaker. Some individuals (the rich) will not be induced by increasing real asset values to spend larger proportions of their incomes on consumption. Rather, they will save more. Others, of course, will increase this proportion but increases in the average propensity to consume due to the shifts in their spending habits are limited. Thus, the deflation may have to be extreme before the net effect upon aggregate demand is sufficient to restore a high employment equilibrium.

Friedman's second fundamental corrective appears, on the other hand, to offer somewhat more comfort, but for reasons other than those he suggests. An increase in the money stock also will increase the real value of assets, and to the extent that this pushes the consumption function upward it will, it is true, cause aggregate demand to react favorably. In this instance, the decline in prices need not necessarily exceed that associated with the original decline in aggregate demand. But since the increase in the money stock is limited by the extent of the deficit, further price decrease may be essential if the in-

crease in real asset values is to drive the consumption function upward. Moderate price decline is unlikely to depress investment as much as precipitate decline. If, after the initial deflation, the increased money stock is alone sufficient to lift consumption, then investment may increase and itself assume the principal rôle in restoring full employment. It is this possibility, that investment will increase, which makes Friedman's second fundamental corrective slightly more palatable than his first; yet, he apparently prefers to disregard it.

Thus, even granting Friedman's necessary assumption (that the consumption function and real asset values are directly related), the mechanism by which a favorable equilibrium is restored is considerably more complex than that described in "Framework for Economic Stability." Adjustments required when discretionary action is foresworn may be extreme, so extreme that the proposal will provide instead a rigid framework for instability. It seems apparent that this proposal for "built-in flexibility" requires such unique reactions that it could not (even in a flexible price world) be relied upon to do the job alone; even there discretionary counter-cyclical policy is necessary. In a world of rigidities and frictions such policy is even more essential.

PHILIP NEFF

The Haynes Foundation and The University of California at Los Angeles

Rejoinder

The central feature of the monetary and fiscal framework for economic stability outlined in the article criticized by Dr. Neff is that it dispenses as much as possible with discretionary action and relies almost entirely on automatic reactions. While Neff does not discuss explicitly the relative merits of automatic and discretionary action—of "rules" *vs.* "authorities"¹—it is clear that this is the basic issue between us. To Neff, "even in a flexible price world . . . discretionary counter-cyclical policy is necessary. In a world of rigidities and frictions such policy is even more essential."

I shall first comment on this basic issue and then turn to Neff's explicit criticisms: (1) that "admittedly price and wage rigidities destroy the virtue of the proposal"; (2) that my analysis of the proposal "assuming flexible prices and minor lags contains errors so important that the virtue of [the] analysis is lost."

1. *Alternative Stabilization Policies*

Neff does not argue that the automatic reactions under the framework I outlined will have effects that are in the wrong direction, but rather that they

¹ Henry C. Simons, "Rules versus Authorities in Monetary Policy," *Jour. Pol. Econ.*, Vol. XLIV, No. 1 (Feb., 1936), pp. 1-30; reprinted in Henry C. Simons, *Economic Policy for a Free Society* (University of Chicago Press, Chicago, 1948), pp. 160-83. It should be noted that Simons emphasizes the political implications of rules versus authorities and not merely their relative effectiveness. The restriction of the comments below to the latter question does not reflect any doubt about the virtues of "rules" in preserving political democracy; it is occasioned rather by the irrelevance of the political issue to the present discussion.

"could not be relied upon to do the job alone." This criticism makes sense only if alternative or supplementary discretionary policies are known that are reasonably certain to temper instability more effectively than the automatic reactions alone. Yet Neff does not even state explicitly what policies he favors, let alone establish a case that they would be more effective. Can it, then, be taken for granted that the addition of unstated and undefined discretionary action will necessarily improve matters?

The contention that this can be taken for granted is typically defended somewhat as follows: You admit that your "proposal may not succeed in reducing cyclical fluctuations to tolerable proportions," that "the forces making for cyclical fluctuations may be so stubborn and strong that the kind of automatic adaptations contained in the proposal are insufficient to offset them to a tolerable degree" (my article, p. 264). Why, then, not simply add discretionary action to the automatic reactions so as to be ready for all eventualities? After all, a discretionary authority can certainly do at least as well as your "rule," since, if it thought that the "rule" would work, it could refrain from taking any action or make its action identical with that which the "rule" would produce. If it took any additional action, it would be because the rule wasn't working well, so that the additional action could be presumed to improve matters.

Despite its plausibility, this argument is fundamentally fallacious. In the first place, even if the authority could and would do exactly what the "rule" prescribed, the results might well be very different. A "rule" gives the community a different basis for predicting the reactions that will take place than an "authority" does. Thus the same actions will be attended with a different degree of uncertainty, and I should argue more uncertainty, if carried out by an authority than if the result of a "rule," thereby changing the cyclical forces to be countered.

In the second place, it is not clear that an authority could follow the "rule" even if it thought it desirable to do so. It would be subject to political pressures, and affected by the general climate of opinion. To be successful, the authority must take action largely counter to that being taken by the rest of the community. Can it have the independence of mind and strength of character to do so? If it does, can it remain in power? Our experience along these lines should make us anything but sanguine. The Federal Reserve System has operated under highly advantageous circumstances, yet I think it likely that on balance its discretionary action has been destabilizing, the most striking example being the sharp deflationary action it took in the fall of 1931.

It may be replied that the political pressures that would prevent an authority from operating successfully would prevent adoption of the "rule." This may be, but the first amendment to the Constitution offers an instructive example of the possibility that the community may favor a self-denying ordinance proscribing a bundle of actions most or all of which, taken separately, it would favor.

In the third place, it is not obvious that additional discretionary action would improve matters even though the authority were completely free from political pressure. There is no more egregious fallacy than the belief that a

series of counter-cyclical actions will on balance be stabilizing if only they are in the "right" direction more frequently than in the "wrong" direction; stated differently, that an authority will do harm only if its actions are perverse. On the contrary, a series of actions, most of which are in the "right" direction, may still intensify cyclical fluctuations rather than reduce them.² Further, as I argued at some length in the article under discussion (pp. 254-58), circumstances that would make the automatic reactions I described work poorly or be destabilizing would be extremely likely to make discretionary actions of the kind so far proposed work even worse or be even more highly destabilizing.

We do not have an acceptable theory of cyclical fluctuations or of the causal forces at work. But it is clear that lags in response play an essential rôle in the generation and propagation of cyclical movements. And it is precisely these lags that render uncertain the effectiveness of counter-cyclical action. Yet the presumption that discretionary counter-cyclical action will be predominantly or overwhelmingly in the "right" direction is implicitly premised either on negligible lags or on an ability, which we clearly do not have, to forecast future movements in aggregate demand.

These implicit assumptions perhaps explain why most proposals for discretionary counter-cyclical action specify explicitly neither the location of authority for action, nor the criteria on the basis of which action is to be taken, nor the precise action to be taken. If reasonably concrete specification of these essential features of the proposals were attempted, I believe that the present appearance of widespread agreement on discretionary counter-cyclical policy would dissolve into thin air. The agreement is on objectives, not on a reasoned proposal for social action.

2. Price Flexibility

Both Neff's comments and those made by others suggest that my article can be justly criticized for not dealing explicitly with the "excluded middle" between "perfect flexibility" of prices, including wages, and complete rigidity, at least against declines. To bring out starkly the rôle of price flexibility, I analyzed in detail the two extreme cases, though I did mention in a footnote that the effectiveness of the proposal did not depend on "'perfect' flexibility of prices, however that might be defined" (my article, p. 258). Neff applies the analysis of what I designated "an extreme example" directly to the real world, accepts my conclusion that "the only escape from this situation [the extreme example] is to permit inflation" (my article, p. 254), and proceeds to recommend that

² See Milton Friedman, "Lerner on the Economics of Control," *Jour. Pol. Econ.*, Vol. LV, No. 5 (Oct., 1947), p. 414, especially footnote 12.

The fundamental point is contained in the statistical theorem that the variance of a sum of two components is the sum of the variances plus twice the covariance. A negative covariance is thus not enough to insure that the variance of the sum is less than the variance of one component; in addition, the covariance must exceed in absolute value one-half the variance of the other component. In connection with the present problem, one component may be taken to be the aggregate demand in the absence of the counter-cyclical action contemplated; the other component, the addition to or subtraction from aggregate demand attributable to the counter-cyclical action.

inflation be permitted. Having gone so far, he should have gone farther and inquired whether even inflation would be a permanent "solution." Would it not have to become cumulative to remain a solution? Would not the resultant inequities and disruptive economic effects lead the community to prefer considerable unemployment to continued inflation?

Reality, of course, corresponds to neither extreme. At most, "many prices are moderately rigid, at least against declines" (my article, p. 253). Under such circumstances, the virtues of the proposal are not destroyed; the proposal will work better than under extreme rigidity, less well than under extreme flexibility. With a moderate degree of rigidity, "a reasonably stable or moderately rising level of money income" would be an eminently satisfactory outcome.

In the present state of our knowledge—or ignorance—reasonable men can hold widely different judgments about the quantitative importance of price rigidity. My own judgment is that there is more danger of exaggerating than of understating its importance. Further reflection and observation of the course of events have led me to attach even less importance to rigidity than I did when I wrote the article. Given a substantial segment of reasonably flexible wages and commodity prices, the fact that other commodity prices and wages are rigid will increase the average level of "frictional" unemployment; but is unlikely to be a serious obstacle to the effective operation of the proposal. Casual observation is particularly treacherous on a point like this. One tends to neglect devices invented to circumvent apparent rigidities. Moreover, rigidity is far more newsworthy than flexibility; it leads to consequences that command attention. We hardly ever realize that the price system is operating except when its operations are interfered with.

3. Analysis of the Implications of the Proposal

The section of my article that Neff characterizes as containing "errors so important" as to destroy the virtue of the analysis does not pretend to be an exhaustive analysis of cyclical forces. It is explicitly restricted to describing the "stabilizing economic forces" on which the "ideal possibilities of the monetary and fiscal framework proposed . . . depend" (my article, p. 258). It thus neglects forces not directly connected with the monetary and fiscal framework (e.g., "changes in relative prices and interest rates," my article p. 259), and only mentions by way of qualification such factors as "the number and magnitude of the disturbances to which the economy is subject, the speed with which the equilibrating forces operate, and the importance of such disequilibrating forces as adverse price expectations" (my article, p. 261-62).

The chief conclusion of this analysis is that there are four main automatic reactions that would come into play to counteract changes in aggregate demand: [1] "the adjustment of transfer payments and tax receipts to changes in employment. This eases the shock while the defense is taken over by changes in prices. [2] These raise or lower the real value of the community's assets and thereby raise or lower the fraction of income consumed. [3] They also produce a government deficit or surplus in addition to the initial deficit or surplus resulting from the effect of changes in employment on transfer pay-

ments and tax receipts. The final line of defense is [4] the cumulative effect of the deficits or surpluses on the stock of money. These changes in the stock of money tend to restore prices to their initial level." (My article p. 261, numbers in brackets added.) I called (1) a "shock absorber" and (2), (3), and (4) the "more fundamental correctives" because (1) alone can at best offset only part of the decline in real aggregate demand and is in operation only so long as there is unemployment, whereas the remaining forces are not so limited.

Neff's criticism of this analysis is marred by a serious error of omission. He does not even mention (1), and he completely neglects (3). Thus he comments, "The process of recovery is based not upon direct increments to aggregate demand resulting from government investment; rather it is based upon the hope (probably vain) that the propensity to consume will increase." But forces (1) and (3) are analytically equivalent to "direct increments to aggregate demand" and their operation is entirely independent of any effect of changes in the real value of assets on the propensity to consume.

The omission of (1) is particularly regrettable. The federal fiscal system now has vastly greater "built-in flexibility" than before the war, largely as a result of the increased importance of the income tax and the changed technique of tax collection. Indeed, I believe this is by far the most important change in recent years in the economic environment relevant to stabilization policy. Estimates by Musgrave and Miller, as well as other evidence, suggest that force (1) alone is likely to offset something like a quarter or a third of any change in aggregate demand.³

As nearly as I can tell, the positive errors of which Neff accuses me are (a) that I suppose the average propensity to consume to be positively related to the real value of the community's assets—or perhaps that I suppose this relation to be quantitatively more important than it is; (b) that I neglect or understate the effects of adverse price expectations; (c) that I take no account of indirect effects on investment, apparently themselves largely to be explained by adverse price expectations.

a. It is not clear whether Neff denies that, other things the same, a rise in the real value of the community's assets will raise the average propensity to consume. In any event, he argues that the "propensity to consume is not sufficiently sensitive to holdings of real assets." I do not see how either the existence or direction of the effect can be denied. As indirect evidence of its importance, I would cite the relative secular stability of the propensity to consume, and the apparent absence of strikingly wide differences between rich and poor countries in the propensity to consume. The effect in question seems to me one of the major explanations of both phenomena. But this is evidence for a secular effect, not for a relation over short periods. Empirical evidence on the short-period relation is almost completely absent. Additional work on this problem is urgently needed. Suppose, however, that a reasonably accurate estimate of the magnitude of the effect were available. How large

³ R. A. Musgrave and M. H. Miller, "Built-in Flexibility," this *Review*, (Mar. 1948), pp. 122-28. As was pointed out in my article (footnote 20a, p. 261), force (1) is the only one taken into account by Musgrave and Miller.

an effect would make the propensity to consume "sufficiently sensitive"? On this point, I believe that Neff's neglect of forces (1) and (3) leads him to overstate the "sensitivity" that in some sense is "sufficient."

b. When a decline in aggregate demand sets in, prices tend to decline. Neff argues that this decline in prices will lead to expectations of further price decline, and that these adverse price expectations will cause consumers to reduce their consumption, and business enterprises to reduce investment, thereby offsetting, or more than offsetting, any favorable effects of the price decline on the propensity to consume *via* its effect on the real value of the community's assets.

This possibility cannot be denied and, as noted above, was explicitly recognized in my article. Here again the question is empirical. How likely are price expectations on balance to be favorable rather than adverse? If adverse, how large will their destabilizing effect be? My judgment on this point is very different from Neff's. I should argue that price expectations may be expected to be largely stabilizing or neutral in the early stages of either a decline or rise in prices, and to become strongly adverse only at a considerably later stage when the decline or rise has degenerated into a drastic deflation or inflation. The behavior of the velocity of circulation in the earlier stages of all great inflations of history and our experience in two world wars seems to me to lend strong support to this view. But it may be argued that there is asymmetry between rises and declines in prices, that rises are generally expected to be reversed, but declines to continue. There is less evidence for declines than for rises, but I should argue that our experience in 1929-31 and, indeed, in most contractions, supports, or, at least, does not contradict, the view expressed.

The prevalence of the view held by Neff is to be explained, I think, by concentration on dramatic cases such as 1931-33 and the later stages of great inflations and by the temptation to think in terms of drastic rather than gradual price movements. I doubt that 1931-33 can be explained as a direct consequence of adverse price expectations. It is better explained, in my view, by the inappropriate action of the Federal Reserve System in the fall of 1931, which in turn led to adverse price expectations and other cumulative forces that rendered the subsequent reversal of Reserve policy ineffective. "*Natura non facit saltum*" applies to changes in aggregate demand as well as to other economic changes. Surely, the typical case for which counter-cyclical policy should be designed is a gradual decline or rise in aggregate demand, in which case discontinuous changes in expectations are hardly to be expected.

Finally, the existence of a stable monetary and fiscal framework will itself be a factor tending to stabilize expectations. In view of the historic instability of monetary and fiscal forces, particularly monetary, the surprising thing is that expectations have not in the past been even more destabilizing.

c. In so far as Neff's dissatisfaction with my treatment of investment reflects more than a difference between us on the importance of adverse price expectations, I suspect that it arises out of my failure to specify the source of the initial decline in aggregate demand that I assume to get the analysis going and my failure subsequently to mention explicitly changes in consumption or in investment other than those arising directly from the operation of the stabilizing forces.

It clearly makes no difference whether the initial decline in aggregate demand arises from an autonomous decline in consumption or in investment; in either case, the effect is identical. Subsequent induced changes involved in the so-called "multiplier" effect are implicitly taken into account in my analysis (see the second paragraph of footnote 19 on page 260 of my article and the accompanying text). Further changes are irrelevant to the argument. They are in effect included in "the disturbances to which the economy is subject." They affect the destabilizing forces which automatic reactions must counter, but not the operation of the automatic reactions themselves.

MILTON FRIEDMAN

University of Chicago

Final Comment

My difference with Professor Friedman is not based upon the belief that all fiscal and monetary policy should be discretionary, that "authority" is to be preferred over "rule" in every instance. Indeed it would be as impossible to establish a monetary and fiscal system completely devoid of "rules" as to provide ironclad guarantees against any future discretionary action. I feel rather that some discretionary action will be required, particularly in view of price rigidities and volatile expectations. Friedman, in his rejoinder, considers the central feature of his proposal to be the fact that "it dispenses *as much as possible* with discretionary action and relies *almost* (my italics) solely on automatic reactions." Thus both of us apparently believe that discretionary action will have a significant rôle to play, in spite of the virtues of a logical fiscal and monetary system.

The supplementary discretionary policies called for by the failure of the economy automatically to right itself are several. Friedman himself (pp. 253-54) describes deflationary conditions which monetary inflation would correct, while the contribution which may be expected from a discretionary government investment program has been the subject of extensive literature over the last decade and a half. It is possible that Friedman and I would disagree on what particular action would be appropriate to given circumstances but his suggestion in the rejoinder, "that to be successful the authority must take action largely counter to that being taken by the rest of the community," leads me to believe that even on this we would not be far apart.

Friedman and I agree that price rigidities and lags complicate counter cycle policies, but disagree with respect to their significance. I hold that whenever price rigidities defeat automatic adjustments, whether these adjustments be those resulting from Friedman's proposal or those that are now inherent in the system, discretionary action can provide some contribution to fuller employment. That lags will reduce the efficiency of either automatic or discretionary action is quite clear, but Friedman's belief that his proposal minimizes lags is not convincing. Surely the change in variables that brings his "correctives" into operation could be relied upon as a guide for policy.

In my earlier reply to Friedman's article I failed to comment on his correctives (1) and (3) because they already operate in our system, and although I appraise their strength somewhat less than some economists, I wel-

come their existence. Though these correctives have not in the past been sufficient to head off every contraction, it would be nonsense to deny them some salutary effect. My argument represents an attempt to show (contrary to Friedman) that correctives (2) and (4) could not be relied upon to do the job alone, for the favorable effects, unfortunately, are accompanied by unfavorable ones. Obviously, the success of any program for built-in flexibility depends upon the job to be done. If correctives (1) and (3) are sufficient, then no sensitivity of the propensity to consume to real asset holdings is required. But if contraction continues, a high degree of sensitivity is essential if Friedman's proposal is to operate successfully. Evidence concerning its sensitivity is fragmentary, but I believe that "the secular stability of the propensity to consume, and the apparent absence of strikingly wide differences between rich and poor countries in the propensity to consume" supports my position, not Friedman's. Moreover, if a deflationary movement is sufficiently mild that price expectations are favorable, then certainly the required sensitivity of the propensity to consume is less than in periods of contraction sufficiently sharp to create adverse price expectations.

PHILIP NEFF

Hungary's Monetary Crisis: Comment

In the September, 1948, issue of the *American Economic Review*, Professor Nogaro published a very interesting paper under the title "Hungary's Monetary Crisis and its Theoretical Meaning." Unfortunately, some errors can be found both among his statements of fact and the conclusions he arrives at, which I should like to correct.

First of all, what Professor Nogaro says about the motives that led to the introduction of the tax-pengő needs amplification. According to him "The tax-pengő's creation was quite empirical; it did not follow from any pre-conceived ideas. Its purpose was to guarantee tax revenues" (p. 539).

This is not the whole truth. The reason for introducing the tax-pengő as money of account was to enable the National Bank through the valorization of credits to grant credits justified both on general grounds and in the particular case and, at the same time, to prevent the firms from making profits out of the depreciation of the currency brought about by the inflation which at that stage was considered to be unavoidable. The war destroyed the real working capital of the firms while the inflation destroyed their monetary capital. Restarting production was impossible without providing credits, for wages had to be paid. The reparation deliveries require special consideration. A large part of the reparation goods consisted of machinery requiring long production periods. To finance their production, credits or advances were necessary. Accounts could be settled, of course, only after the delivery of the goods and it seemed just that the credits and advances granted should be valorized in one way or another lest the firms should make inordinate profits. Apart from that, many firms required credit to restore the productive capacity of their war-damaged plant. The government thought that the

bank of issue should provide these credits without, however, letting the firms make inordinate profits.

It was to be hoped that the valorization of the commercial credits by means of the tax-pengő would ensure the reflow of at least part of the great quantity of money issued in the course of the inflation. If on January 1, 1946, the date of the introduction of the tax-pengő, when 1 tax-pengő was equal to 1 paper-pengő, somebody contracted a short-term credit of 1 million pengős on the condition that after three months he would have to pay back as many times more paper-pengős as it had been necessary to issue in consequence of the inflation, the repayment of the larger amount of paper-pengő would, it was thought, to some extent counterbalance the effects of the inflation.

Another motive was, and Professor Nogaro is right in pointing this out, to valorize tax-receipts, not only the direct taxes but also the indirect taxes, amongst them the purchase taxes fixed in percentage of the prices of goods.

It seems to me that the scheme broke down for four reasons:

1. At the time of the introduction of the tax-pengő, the volume of credits was extremely small and did not by any means correspond to the real needs of economic life. For the reasons given above credits had to be granted in an increasing volume but when due were not repaid but prolonged. Thus the expected reflow of money never took place.

2. The national economic budget lacked equilibrium. Professor Nogaro does not seem to be aware of the importance of the economic budget when in the section "A New Conception of Inflation" (p. 534) he is puzzled how the sum total of the money incomes could have surpassed the aggregate money value of the goods and services available. Although he does not say so, he must have been thinking in terms of the concepts of the market theory of Jean Baptiste Say, according to which the total value of output included the incomes of all those who had been instrumental in producing it. This conception is valid only if two conditions are fulfilled: (a) The sales price of every commodity is greater than its cost price; (b) The people in receipt of salaries and wages want to buy the goods that have been produced.

We may add as a third condition that the balance of the budget is achieved by ordinary means, *i.e.*, without recourse to an inflation.

After the war none of these conditions was fulfilled in Hungary. The sales price of many a commodity was fixed below the cost price out of social considerations. This did not mean that the firms producing them were working at a loss because to bridge the gap they contracted credits which melted away in the inflation. At the same time, as mentioned above, they profited in carrying out an investment program with the help of inflated credits. Economic equilibrium suffered even more from the fact that the purchasing power distributed in the form of salaries and wages created a demand for goods which at that time were not available. The recipients of incomes wanted consumer's goods, the quantity of which was not sufficient. A larger part of the social product was made up of producers' goods than was warranted by the volume of savings, the more so because owing to the low in-

come level the propensity to save was practically nil and the volume of savings hardly exceeded the enforced savings of the inflation. This period offered a striking illustration of the wage-fund theory: If the recipients of incomes refuse to save, their aggregate real income cannot exceed the available quantity of consumers goods.

3. The investments of the inflation period were greater than what the equilibrium of the national economic budget allowed. The inflation was therefore inevitable. However, the capital accumulation made possible by a rapid inflation led to the speedy reconstruction of plant. Had it not been for that, the subsequent rise of the national income would not have been as marked as it was.

In 1945-46 the composition of the social product could not be changed because there was no possibility of increasing the quantity of consumers goods. Before gathering in the harvest of 1946 the stocks of food and raw materials could not be increased. Neither was it possible to replenish them through imports in exchange for capital goods because these were needed at home to make the future extension of the production of consumers goods possible and because no consumers goods were available in other European countries.

4. There were also technical mistakes which speeded up the process of depreciation. For example, the fixing of the prices and wages in tax-pengő increased the volume of money that was necessary. The equilibrium of the national economic budget was not ensured in tax-pengő either. The sum total of the claims against the social product was, even if expressed in tax-pengős, greater than the total value of the consumers goods expressed in—by definition stable—tax-pengő. For the reasons given above this must have led of necessity to an inflation of the tax-pengő which, in its turn, speeded up the inflation of the paper-pengő. Later, the inflationary process was speeded up because the value of the tax-pengő expressed in paper-pengős did not measure exactly the actual depreciation of the paper-pengő, owing to the inevitable time lag. The prices which served as the basis of the computation were always the prices of the previous day and that led to a great difference between the legal and the real value of the tax-pengő. This fact was duly discounted by the market and led to speculative price increases. There was also an inevitable time lag between the inflow and outflow of money in the Treasury and thus, in spite of the valorization of the tax-pengő, the revenue collected in paper-pengős was much below what was needed. Finally, there was also the technical flaw referred to by Professor Nogaro, *i.e.*, that private individuals were able to defend themselves against the depreciation of the paper-pengő by putting their paper-pengős into the bank in the evening on the basis of the lower quotation of the tax-pengő of that day and drawing on their account a larger sum on the basis of the higher quotation next day.

In consequence, the valorization of the credits and the tax receipts proved to be a failure. But even if the experiment of the tax-pengő was unsuccessful, it cannot be denied that in other spheres Hungarian economic policy followed a clear and consequential line and that its consequentiality bore fruit.

Several phases can be distinguished in the economic policy of the postwar period.

1. In 1945-46, at the time of the inflation, the aim was the speedy reconstruction of plant. Even the land reform carried out in the Spring of 1945 had that aim. Appeal had to be made to the enthusiasm of the new owners to till the land that had become their own, even without the necessary number of farm animals and other equipment, and prepare the way to a bigger crop in 1946. With the large estates intact this would hardly have been possible because the landlords lost the necessary authority for the running of large farms and, in any case, would not have been able to pay their labourers and provide them with food. Although the formula used was different, the principle applied was essentially the same in manufacturing industry. The aim was the speedy restoration of the productive capacity of plant even if that required the pressing down of real earnings to a very low level.

2. On August 1, 1946, a new currency was introduced and a new pattern of income distribution was set up by decree. Salaries and wages were fixed not in proportion to the levels that prevailed at the end of the inflation period but on the basis of purely theoretical considerations. The same applied to the fixing of taxes and to the drawing up of the investment program of the State. The basis of the plan was a national economic budget which showed an equilibrium not only in its grand totals but also in details, in production and demand in individual sectors. The level of wages was raised considerably corresponding to the increase in the volume of consumers goods. The prices of manufactured goods were fixed below costs, the assumption being that the increase of the level of real earnings would bring the productivity of the workers to a level where the losses of the industry would be eliminated. The gamble was bold but was successful. While 1945-46, the first year following the war, served the reconstruction of plant, 1946-47, the first year of the currency reform, served the increase of real income.

3. In the Three-Year Plan launched on August 1, 1947, the two aims appear in combination. It is intended to increase the capacity of plant and the standard of living simultaneously.

In addition to these comments I should like to rectify some errors which crept into statements of fact.

The depreciated pengő of 1938 was made equal to 2.29 forints and not to 2.07 forints. But as the gold value of the 1938 pengő was fixed in fact but not in law, it must be mentioned that the gold value of the pengő introduced on January 1, 1927 was 3.5 times greater than that of the forint.

According to a statement on page 526, 828 octillion (1 octillion = 10^{27}) depreciated pengős were equal to 1 prewar pengő. The statement is erroneous partly because the parity was fixed in a way different from what Professor Nugent assumed and partly because the change-over from the depreciated pengő to the forint was an arbitrary action. It is wrong to try to establish the rate of the depreciation of the pengő at the end of the inflation backwards from the value of the forint. The only true measure is the purchasing power. Applying that, we find that the commodity value of 1 pengő in 1938

was about equal to that of 1.4 nonillion (10^{30}) depreciated pengő in July, 1946.

On page 532 Professor Nogaro says that rents were fixed at 60 and 40 per cent, respectively, depending on the highness of the rent. In fact, the 40 per cent level was the one adopted and that had to be multiplied by 3 to arrive at the forint rent whereas the multiplier used in the case of prices was in general over 4. Thus the level of rents is below 30 per cent. Exceptionally higher rents are being paid for large flats but the greatest part of the difference is collected by the Treasury in the form of a tax.

STEPHEN VARGA*

*The author is professor of economics and statistics at the University of Budapest, Hungary, and president of the Hungarian Institute for Economic Research.

Hungary's Monetary Crisis: Rejoinder

I have read with much interest Professor Varga's comment. It is a useful addition to the data which I have been able to gather from the documents available to me and especially from his own article in the *Neue Zürcher Zeitung*.

I note with satisfaction that the "errors of fact and of interpretation" which he mentions are quite few, that they refer to relatively unimportant details and that they do not change my conclusions.

Professor Varga questions whether the creation of the tax-pengő was entirely empirical. He points out that its creation also answered the need for opening credit accounts to businessmen without permitting them to repay these advances by a currency which had lost a great deal of its purchasing power between the time of the loan and the time of repayment.

I was quite aware of this use of the tax-pengő, but some of my sources indicated that its creation was entirely empirical and had not originally had this purpose. I therefore acknowledge Professor Varga's interpretation.

As to the figures which I mentioned in connection with the depreciation of the pengő, I calculated them exactly on the basis of the data which were available to me. Professor Varga explains that the depreciated pengő of 1938 was equal to 2.29 forint and not to 2.07 forint, the figure which I used. Again, I defer to his views. Furthermore, I know as well as he that the only standard which can be employed in comparing effectively the value of the two monies, is their purchasing power.

BERTRAND NOGARO

Inflation and Equality: Comment

In the December, 1948 issue of this *Review*, Professor David McCord Wright concludes (although in the form of a question) that, in order to meet the threat of secular inflation, we need "(1) less taxation of profits, (2) less progressive taxation, (3) higher interest rates."¹ Both (1) and (2) mean a redistribution of the tax burden in favor of the rich and against

¹ D. M. Wright, "Inflation and Equality," *Am. Econ. Rev.*, Vol. XXXVIII, No. 5 (Dec., 1948), p. 896.

the middle- and lower-income groups. The argument of this comment is, first, that it is misleading to argue that tax reductions on high incomes are necessary "in order to increase saving"; second, that if the objective is to increase investment, there may be other ways to do it, more acceptable to the egalitarian ideas that some of us possess; third, that there exists no obvious case on welfare grounds why inflation should be curbed primarily by reducing consumption rather than investment.

Professor Wright holds, first, that inflation rather than unemployment seems to be our secular outlook for "about 25 years." For the sake of argument let us accept this. Now inflation means that the real spending desires of consumers, investors, and government exceed the real capacity of the economy to produce. Hence, if inflation is to be avoided, the sum of such expenditure desires must be reduced. As between reducing consumption and reducing investment, Wright chooses consumption. To say that consumption plus investment expenditures tend to outrun capacity production is equivalent to saying that investment tends to outrun saving. This way of putting it, however, is not well adapted to sound analysis of some aspects of the problem, since it tempts us toward fallacious reasoning of the sort that follows. If we don't want to reduce investment, then we must increase saving. What groups do most of the saving? The high income groups. How do we get them to increase their saving? Let them retain more income, by reducing their taxes. Despite the poor family mentioned in *Fortune* who were barely "getting along" on \$25,000, both Wright and I believe that the rich have a marginal propensity to save greater than zero—appreciably greater, I'd say. Hence, more disposable income, more saving. The way to solve our problem is to increase the disposable income of the rich.

Now I am sure that Wright realizes the fallacy in the argument as I have stated it, but some others who talk this way don't, and Wright's argument is not well calculated to disillusion them. *Reductio ad absurdum*: even the poor have a marginal propensity to save at least slightly greater than zero. Hence we could get *still more saving* by reducing their taxes, too. The trouble is, of course, that if you increase disposable income by tax reduction you do increase saving, but you also increase consumption, and add to rather than subtract from the inflationary pressures. The problem of inflation control is not to increase saving, but to reduce consumption. It is misleading to argue that we need to reduce taxes on the rich "in order to increase saving" and thus control inflation.²

It is obvious, of course, that if a *given* total amount of taxes is to be collected, taxing the poor reduces consumption somewhat more than taxing the rich.³ I see little reason, however, why we need to think in terms of a

² The same fallacy is involved in the depression argument that we should "soak the rich" because they save too much. Although Wright repeats this prescription, it too is wrong. "Soaking the rich" reduces their consumption (as well as their saving) and is, by itself, deflationary.

³ Although the conclusion of Musgrave and Painter ("The Impact of Alternative Tax Structures on Personal Consumption and Saving," *Quarterly Journal of Economics*, August, 1948) is that redistribution of the tax burden cannot have important effects either way.

given total amount of tax collection. It is likewise clear that taxation heavy enough to exert control over recent inflationary pressures cannot be confined to the rich—there are simply not enough of them, and their total consumption is too small. I take these facts for granted, and assert that they are not particularly relevant to Wright's argument. If the problem is to avoid inflation, without reducing investment, then we must reduce consumption, and it doesn't much matter whose. If there is fear that additional taxation of high incomes might reduce attempted investment, why is Wright not content merely with additional taxes "on the ordinary citizen"? Why must we *reduce* taxes on the high incomes, as is clearly suggested at several points?

Is this merely because inequality is desired on other grounds? Professor Wright has argued elsewhere, and very ably, the case for inequality.⁴ Although I cannot fully accept his conclusions, I recognize the difference as largely one over *values*. My objection here is only to the necessary association of the question of equality with that of inflation control. Avoiding inflation without reducing investment does not call for reducing taxes on the rich.⁵

It is essential to recognize that Wright does not hold that there is any problem of inadequate incentives to provide the amount of investment now taking place (or now attempted). Indeed, if there were, *inflation would not be our secular outlook*. "Only if we deliberately attempt to discourage investment incentives would the case be different. Up to now our discouragement of new investment has not affected the rate of planned investment quite that much."⁶ Wright's argument for tax reduction on high incomes may therefore rather be of a different character, a character which is there largely by implication, not through clear statement. Perhaps it can be stated as follows. Today we have a sum of attempted investment plus attempted consumption that is too great. It is not enough merely to reduce consumption to the extent necessary to avoid inflation. We must rather reduce consumption still more than this, and provide for a still higher rate of investment than now attempted. To do this we must not only *increase the tax burden*, which will reduce consumption, but we must *redistribute it in favor of the rich*, which will increase investment. An actual reduction of taxes on the rich is indeed necessary to *this* argument.

⁴ "Income Redistribution Reconsidered," in *Income, Employment and Public Policy, Essays in Honor of Alvin H. Hansen* (Norton, 1948), pp. 159-76.

⁵ To be sure, Wright's suggestion that the tax reduction take the form of an exemption on saved income would tend to reduce the consumption of the rich, but only if the rate on income not saved were raised sufficiently high. If the rate were not sufficiently increased on income not saved, the rich might end up merely with lower taxes, higher saving, and higher consumption, and the inflationary pressures be increased. The suggestion is worthy of study, but, it seems to me, only if we are willing to concede in advance that it may be worthwhile to bribe the rich to decrease consumption by allowing them to pile up, more rapidly, claims to future income. This, again, is a question of values. Reducing consumption by higher taxes does not have this by-product.

⁶ "Inflation and Inequality," p. 895. The sentences quoted follow this curious one: "Supposing that we do all we can to discourage consumption, the probabilities are that the secular need for current new investment would still be greater than the saving flow." If doing "all we can" includes added taxation, what does this mean?

I may be mistaken, of course, that this is what Wright has in mind. At one point he speaks of lowering taxes on the upper incomes "in order to get more saving *and more investment*" (italics mine). At other points he might be understood to be arguing merely that we need to avoid inflation without reducing investment from its present attempted rate. But in view of his previously quoted position regarding the strength of present investment incentives, it would not seem that reduced taxes on profits and on the rich would be necessary if the objective were merely to avoid reducing investment from its present attempted rate. It is this which leads me to the interpretation I have suggested above: tax redistribution is advocated as a means of securing increased investment. If investment incentives are now strong enough that we are threatened with secular inflation, why otherwise would we need to increase them?

Now this case for a combination of both higher and less progressive taxes must rest on two propositions, neither of which Wright assays systematically, if at all: (1) There is a "welfare" case for a greater rate of investment than now attempted; and (2) Tax reductions on profits and on high incomes will induce a rate of investment greater than that now attempted, and this is the only or the best method of securing added investment.

Take the second proposition first. Accept for argument's sake Wright's view that we want *private* rather than public investment. Is it clear that greater bait for potential investors is the only or the best method to get added investment? One whose value judgments as to the desirability of inequality on ethical and political grounds differ from Wright's might insist that we first try tax reforms of other sorts, monopoly busting, patent reforms, subsidization of technical research, elimination of uncertainties regarding future government actions, and similar measures. In any case, he would put the emphasis on profits taxation rather than income taxation.

But whether Professor Wright is arguing for a rate of investment greater than that now attempted, or merely maintenance of the present rate; whether or not he convinces us that reduced taxation of profits and high incomes is the only or the best way to stimulate investment; he fails, it seems to me; to face up to the vital question of how to justify this high rate of investment. He assumes, that is, that there is an obvious welfare case for a high rate of investment. Why is this obvious?

Grant it to be true that "all over the world today, and even in our own country, the masses of mankind are striving for and demanding a standard of living which our present equipment is inadequate to furnish," Professor Wright is aware, I am sure, that we are here back on classical battlegrounds. What is the optimum rate of capital accumulation if it is not necessarily merely the rate required to provide full employment without inflation? Was not the classical answer (assuming full employment) that it was the rate at which marginal time preference equals marginal product of additional roundaboutness? Would not the Classical answer to the present situation be that the rate of interest should rise, increasing saving and curbing investment? This seems to be part of Professor Wright's answer too. But to the extent that equilibrium is restored in this way it involves a *reduction*

of investment as well as a possible (probably slight) decrease in consumption (increase in saving). Nowadays we attach little enough importance to the effect of the interest rate on investment, but we all assume (I believe), that its effect on saving is even less. Hence, rising interest rates would eliminate inflation primarily by curbing investment, exactly the opposite effect from that which Wright seeks. Certainly, if we desire not to reduce investment, it would be better to eliminate inflation by curbing consumption through added taxes. This points up, of course, the deficiency of the "natural rate" criterion for capital accumulation: what is the natural rate depends on the income distribution and tax structure.

Or does Wright have some other welfare criterion for determining the appropriate rate of capital accumulation? Do the masses acting through government know better than the masses acting as spenders of their own incomes what rate of capital accumulation they prefer? Or does a wise governmental elite know better than the masses acting either way what we and our unborn children want and deserve?

Perhaps welfare would be increased if we saved-invested more, but neither the welfare economists (Lerner in *Economics of Control* argues that this must be a "political" decision) nor Mr. Wright have told us on what grounds we should make this decision. We are all in favor of higher standards of living. But it is not that simple. The question is how far shall we reduce the standard of living in order to increase it. This is a profound and vital question, worthy of careful analysis. If our secular outlook were stagnation, perhaps there is no question: except for times like these, when investment should be discouraged, it is in the social interest to increase investment incentives to the maximum extent possible, and consistent with our distributive ideals (although this may merely intensify the problem subsequently). But if our secular outlook is inflation, we can not ignore the choice that confronts us, and economists need do more than to recognize that it is a choice. For those who believe secular inflation to be our outlook, here is a challenge for careful, original analysis.

Finally, as to whether or not secular inflation is our prospect, I feel incompetent to judge. I only quote a warning from Professor Wright: "Whenever prosperity appears, even momentarily, there are always people to exclaim that 'happy days are here again.' We are in a 'new era.' There will be no more depressions. . . ."

"Shall we be like army officers always preparing to win the last war? During a boom, will our graduate students be trained primarily to prevent inflation—and hence be unprepared in slump? Will they in slump be trained primarily to prevent slumps and so let the next boom become an inflation?"⁷ Unlike the businessman, whose estimate of the future is, we say, excessively colored by today's events, must not the economist always be sure to wear lenses corrected for myopia?

GARDNER ACKLEY*

⁷ D. M. Wright, "The Future of Keynesian Economics," *Am. Econ. Rev.*, Vol. XXXV, No. 3 (June, 1945), pp. 306, 307.

* The author is associate professor of economics at the University of Michigan.

Inflation and Equality: Rejoinder

Professor Ackley impliedly concedes the basic factual assumption of my paper: the marginal propensity to save of the well-to-do is greater than that of the lower-income groups. He also (end of his sixth paragraph) spells out correctly my fundamental contention and concedes its logical validity. I did mean that the flow of net private investment ought to be (secularly) higher, and I do feel that the present aggregate net private (secular) inducement to invest, still more particularly that for risk-taking new ventures, under our present tax-wage-price control outlook, is only adequate where the (proportional) secular level of consumption is very high—too high.

Blaming the inflation on "excessive investment" alone seems to me true, even formally, only as tautology. The real stimulus can come from the consumption side. We might put the matter as follows: the people have become accustomed to demanding a certain *rate of increase* of real income. Price control and restriction of investment might, for a time, halt inflationary price rise. But *real* income might not be *rising* sufficiently. Therefore, there might be demands for "fourth-round" money wages increases, etc., which could start the inflation going again. Sometimes eliminating all saving-investment might not suffice to meet the demand for present consumption.

Since Dr. Ackley concedes my basic point, the real question becomes, as he says, one of values.¹ For brevity's sake I must discuss his main point only. Do not Dr. Ackley's doubts as to whether there is a "welfare case" for a higher rate of investment imply a sort of "iron law of consumer satisfaction"? Of course he does not commit himself to such a position, but would not the logic lead to some such statement as "all income levels are about equally satisfying (or unsatisfying). Progress is a delusion."

Now, if the public agreed, there would be no more to be said. But I believe in (1) democracy and (2) our duty as economists to help the people toward an *informed* choice. I say to the lower-income groups, "You want a rapidly rising standard of living. To get it more capital is needed, to get more capital we need more investment. Some moderation in your demands for equality today will give you more goods tomorrow—without inflation."²

It is important to realize that Dr. Ackley does *not* dispute the correctness of this argument under the circumstances assumed. What seems tentatively suggested is some such reply as this: "No, no, people of America, you will be just as unhappy no matter what your national income is. Equal distribution will give us 'enough' goods. Forget about growth."

I see nothing mysterious about the way to settle this argument—democratically. Leave it to the people through their representatives to make the

¹ For detailed statement of my values see *Democracy and Progress* (New York, 1948), especially the chapter on redistribution. Dr. Ackley is not correct in saying I argue for "inequality." I argue for as much *equality* of opportunity as we can get. Perhaps it might be best to say I argue for a *balance* of equalities, none of which can be wholly realized.

² Regarding the cycle, I have also shown, in *Economics of Disturbance* (New York, 1947), that there is a more or less insoluble conflict between demands for *prompt* satisfaction and demands for perfect stability.

choice: More equality today *versus* more butter tomorrow. But it should be an *informed* choice, a choice by an electorate that understands the alternatives, and is not misled by rosy delusions that we can get "plenty," now, merely by redistribution.

Only one technical point needs mentioning. Dr. Ackley seems to feel that under *any* circumstances raising the market rate of interest will "reduce investment." This is a widespread misconception of Keynesian theory. Inflationary "forced saving" is, of course, one way—possibly the characteristically socialist way (*vide* Russia)—of getting capital formation. But I assume we are agreed that this method is bad. Accordingly, we desire only investment without inflation. Now *ex ante* investment in excess of *ex ante* saving will tend to produce inflation. Raising the rate to an equilibrium figure, under such circumstances, will not reduce the amount of realized *noninflationary* investment. It will only cut off the margin of attempted investment "causing" the inflation! If we want *more* investment, without more inflation, then we want to increase the rate of *ex ante* saving—which is the point I started off with. The appropriate interest rate then would be the one rationing the increased flow without inflation.

In conclusion, I would like to remind my readers that my communication referred to the *secular* problem. Dr. Ackley quotes my "Future of Keynesian Economics."³ I stand by that article in full. If serious depression begins, deficit finance and public works should, in my opinion, be integral *parts* of an effective program. This, however, does not affect secular policy. If private saving-investment would be needed again soon (and they will be if we adopt intelligent policy), we would be very foolish to liquidate the inducement to save for the sake of a short-run crisis.

DAVID McCORD WRIGHT

University of Virginia

³ D. McC. Wright, "The Future of Keynesian Economics," *American Economic Review*, June 1945, p. 284. This article, it is worth mentioning, was given a written general approval by Keynes himself. See also my essay on "The Prospects for Capitalism," *A Survey of Contemporary Economics*, H. S. Ellis, editor (Philadelphia, 1948).

Income Elasticity of Demand for Imports and Terms of Trade

The results which Pigou arrived at in solving the problem of transfer in terms of marginal utility functions¹ were elaborated and implemented in the form of diagrammatic analysis by Professors G. A. Elliott and J. Viner.² Viner further improved Pigou's methods by another procedure which does not resort to utility analysis but is still based upon the assumption that the proportion in which the expenditures are distributed between native and imported commodities remains unaltered in the two countries in the absence of relative price changes, as the amount available for expenditures varies.

¹ A. C. Pigou, "The Effect of Reparations on the Ratio of International Interchange," *Economic Journal*, Vol. XLII (1932), pp. 532-43.

² G. A. Elliott, "Transfer of Means-of-Payment and the Terms of International Trade," *Canadian Jour. Econ. and Pol. Science*, Vol. II (Nov., 1936), pp. 481-92. J. Viner, *Studies in the Theory of International Trade* (New York, 1937), pp. 336-60.

Professor Viner's conclusion is limited to a special case and can be shown by means of indifference curves⁸ in the analysis of transfer problem.

In order to make our analysis throughout this discussion manageable, it is demonstrated in terms of a two-country-two-commodity case. In Figure 1, each country has a family of homogeneous indifference curves.⁴ The ordinates and abscissas of both countries A and B are expressed in physical units which are so chosen that A's and B's commodities are equal in price, with ordinates representing imports and abscissas, domestic goods.⁵ The line ab

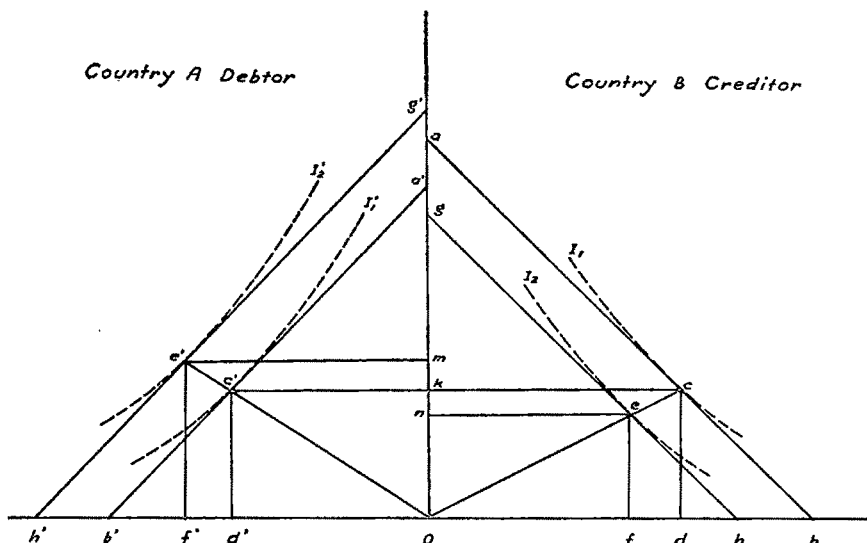


FIGURE 1

denotes all possible combinations of domestic and imported goods which country B can purchase with a given national income at the prevailing price before capital export. Country B will seek the preferable combination, *i.e.*, the combination on the highest possible indifference curve, which is I_1 , and will buy od of domestic goods and ok of imports.

The a'b' in Country A, which is analogous to ab in B before capital movement takes place, touches the highest indifference curve I'_1 at c'. As a result, od' domestic goods and ok imports will be purchased by A. Draw such a

³ T. Scitovszky, "A Reconsideration of the Theory of Tariffs," *Rev. Econ. Studies* (Summer, 1942) pp. 93-95, for community indifference curve.

*The assumption of a family of homogeneous indifference curves is another way of expressing the linearity and similarity of the utility function within each country, or Viner's assumption that "in the absence of relative price changes, changes in the amounts available for expenditure on the respective countries resulting from reparations payments will not affect in either country the proportions in which these expenditures are apportioned between native and foreign commodities."

⁵ With the assumption that the physical units are so chosen that A's and B's commodities are equal in price, all the price lines must be 45° (Fig. 1). For instance, oa' must be equal to ob' .

line $g'h'$ parallel to, but to the left of, $a'b'$ so as the difference between oh' and ob' ($h'b'$); og' and oa' ($g'a'$) would represent the amount of capital received by A; and of' and om represent the amount of A and B commodities respectively which A would consume after receiving capital, since e' is the point on the highest indifference curve which $g'h'$ can meet.

In country B, draw a line parallel to, but to the left of the line, ab , with the difference between ob and oh (bh); oa and og (ag), representing the amount of capital export, and of and on , representing the amount of B and of A commodities respectively which B would buy after capital export.

Now we are in a position to reproduce Viner's argument by means of our apparatus. He assumed that before capital movement each country spends more money on her own than on the other country's commodities, and, in the absence of relative price changes, the terms of trade will turn against the exporter of capital.

By assumption, $f'o : om = d'o : ok$ because I'_2 and I'_1 belong to a family of homogeneous indifference curves, and $g'h'$ is parallel to $a'b'$.

$$\therefore f'd' : km = d'o : ok$$

By assumption, $od' > ok$

$$\therefore f'd' > km, \text{ and similarly, } fd > kn$$

Since capital movement results in an increase in A's spendable funds equalling the decrease in B's spendable funds,

$$\begin{aligned} f'd' + km &= fd + kn \\ \therefore f'd' &> kn \text{ and } fd > km \end{aligned}$$

It is evident that Viner's result is obtained through assumption, among other things, of a fixed ratio in which countries A and B would divide their respective expenditures between A's and B's commodities, *i.e.*, $od' : ok = of' : om$; $od : ok = of : on$, or, in other words, that $oc'e'$ and oec should be straight lines. But the proportion of expenditure between native and imported goods, in the absence of price changes, remains unchanged by variations in the aggregate amount of spendable funds only when income elasticity of demand for imports is equal to unity.⁶ It is, therefore, a special

⁶The demand for imports can be represented algebraically by a functional relationship between the national income (Y) and the amount of expenditure on imports, M . Thus:

$$M = E(Y) \dots\dots\dots (1)$$

$$\text{The elasticity of demand is given by the formula } E = \frac{dm}{dy} \div \frac{m}{y} \dots\dots\dots (2)$$

As the derivative $\frac{dm}{dy}$ is almost invariably positive (since a rise in national income always brings about an increase in the expenditure on imports), E , therefore, is also positive. Solving the differential equation (2)

$$M = KY^E \dots\dots\dots (3)$$

This is the equation of a demand for imports of constant elasticity E . If the demand curve has unit elasticity, this equation becomes

$$M = KY \dots\dots\dots (4)$$

The curve then becomes a straight line passing through the origin.

case, because there are other cases in which an elasticity could be greater or smaller than unity.⁷

There are three probable cases of elasticity of demand between the two extreme cases of a perfectly elastic demand and a perfectly inelastic demand, namely, (1) A relatively elastic demand (M_3), (algebraically, between $+1$ and $+\alpha$); (2) Unit elasticity of demand (M_1), (the algebraic value is $+1$); and (3) A relatively inelastic demand (M_2), (the algebraic value is between 0 and -1). Similarly, there can be five types of income elasticity of demand for imports in the other country. The terms of trade, after the capital movements have taken place, will also, *inter alia*, be conditioned by the possible combinations of income elasticities of demand for imports of the two countries.

We shall concentrate our attention on the three more probable cases of income elasticity and analyze their effects on the terms of trade. Let M_1 and M_1' be the curves of type (2) in countries B and A respectively, M_2 and M_2' for (3) and M_3 and M_3' for (1).

The combinations of the types of income elasticities in countries A and B are tabulated as follows:

Terms of Trade for Country B—Exporter of Capital

$M_1 M_1' - M_2 M_1' - M_3 M_1' ?$

$M_1 M_2' - M_2 M_2' - M_3 M_2' ?$

$M_1 M_3' ? M_2 M_3' ? M_3 M_3' ?$

Therefore, even when the situation was considered before price changes had occurred, cases could be developed in which adjustment to the transfer might involve changes in the terms of trade in favor of the paying country, against the paying country, or no change at all.

Our scheme can also show diagrammatically how parallel monetary expansions could take place with the balance of payments being undisturbed. Let us put the question in this way. If there is an expansion of income from gh to ab in Figure 2, with an increase of mn imports to country B, how much income expansion should occur in A so that there is an equivalent amount of imports from B? The process of geometric construction will be as follows:

Let us suppose that the distribution of expenditure between domestic and imported goods of countries B and A at all levels of income is represented by P and P_1 respectively. (1) Draw a horizontal line parallel to X-axis

⁷Mr. M. Bronfenbrenner, in an elaboration of Pigou's analysis, has shown that the terms of trade of the capital export country depend, besides price elasticities, upon income elasticities and upon what he called intercommodity elasticities, and has given a general mathematical solution to the problem. The indifference diagram which measures two commodities along its two axes is useful and instructive in showing that Viner's diagrammatic scheme based on Pigou's mathematical condition is under the assumption of, among others, unitary income elasticities of imports. It may be observed that in any scheme of analysis in which the consumers can only divide their incomes between purchases of two goods and cannot possibly buy other goods than these two, there cannot be anything but a substitution relation between the two goods. The problem of analyzing the effects of international transfer would be more complicated if there are more than two goods on which consumers can spend their incomes, because in that case both complementary and substitution relationships would be possible. See M. Bronfenbrenner, "International Transfer and the Terms of Trade," *Studies in Mathematical Economics and Econometrics*, edited

the basis of those assumptions alone, however, Kindleberger's conclusion was clearly a *non sequitur*. Additional assumptions were necessary to ensure its formal validity.

In his communication Kindleberger now comes forth with two such assumptions, namely, the existence in foreign countries of (a) a high rate of induced investment (presumably on a scale more than offsetting the increase in saving associated with the rise in foreign incomes), or (b) a negative marginal propensity to save. I venture to suggest that had he explicitly introduced either of those assumptions in his original article he would have been spared most of the gibes from his Washington friends to which he refers, although I rather suspect that he might still have received a residual of gibes for having attempted to construct a general theory of chronic dollar shortage on such a basis. Unless some such additional assumptions are postulated, the theoretical presumption must be that an increase in a country's exports, far from leading to a greater increase in its imports, will typically result in only a smaller, or at best an equal, increase. By now admitting the need for specifying further conditions, Kindleberger is in effect conceding at least one of the points that his critics had in mind. I had raised that point myself in an unpublished memorandum in 1944 which had been used by Professors Enke and Salera as the basis for the discussion of dollar shortage in their *International Economics*. But Enke and Salera did not point out, as I had explicitly done in my memorandum, that Kindleberger's contention regarding overcomplete adjustment to increases in American imports could indeed be theoretically valid if additional (but what I regarded as special) assumptions regarding induced investment (and other factors) were postulated; and they implied, obviously incorrectly, that an overcomplete adjustment was inconceivable. I had not, it is true, explicitly referred to a negative marginal propensity to save as another condition that would make Kindleberger's argument formally correct, but I did not, and most certainly do not, as he suggests, deny the possibility of such.

The real issue involved is not whether Kindleberger's particular point is theoretically valid, for if fortified by the appropriate assumptions it would be, but whether or not those assumptions are the most realistic ones to make. Apparently Kindleberger believes that they are, and he argues that in his original article he was interested, not in "economic models," but in "the behavior of real economies" (*op. cit.*, p. 492). It is my opinion, however, that he is dealing with special cases, not with the general one, and that consequently he is greatly exaggerating the importance in the real world of the sequence he outlines.

To express the issue in simple yet formal terms: is the marginal propensity to invest in foreign countries as a whole characteristically greater (in alge-

are, of course, quite distinct, as I noted in an article in the *Canadian Jour. Econ. and Pol. Sci.*, Vol. VI (1940), pp. 519-20 n. A continued loose usage of concepts is evident in Kindleberger's note when he speaks of a country with "a high foreign-trade multiplier and a *high* propensity to import" and of a country with "a low foreign-trade multiplier and a *low* propensity to import" (italics mine), *op. cit.*, p. 492. For surely a high foreign-trade multiplier is associated with a low marginal propensity to import, and conversely.

braic terms) than the marginal propensity to save? If so, then increases in American imports would, as Kindleberger argues, tend to cause greater increases in American exports, *i.e.*, to bring about an overcomplete balance-of-payments adjustment. If the opposite situation prevails, increases in our imports would tend to cause only an incomplete adjustment. If the propensities were exactly equal, increases in our exports would tend to be identical to the original increases in our imports.⁴

It may be admitted that in certain underdeveloped countries where the marginal propensity to save is very low (and indeed under certain conditions negative⁵), where there is a high rate of induced investment,⁶ and where the marginal propensity to import *American* goods is high, an increase in American imports from such countries might well lead to an even greater increase in their imports from the United States. But it would, I believe, be unrealistic to assume—and I have as yet seen no statistical evidence to suggest—that the

⁴ This formula merely rephrases one laid down in a broader context by L. A. Metzler, "The Transfer Problem Reconsidered," *Jour. Pol. Econ.*, Vol. L (1942), pp. 408 ff. See also J. J. Polak, "The Foreign Trade Multiplier," *Am. Econ. Rev.*, Vol. XXXVII, No. 5 (Dec., 1947), especially pp. 896-97, and F. Machlup, *International Trade and the National Income Multiplier* (Philadelphia, 1943), p. 184 n. Kindleberger's assumptions regarding the relative magnitudes of the relevant propensities in foreign countries would seem to correspond to the case of economies designated by Metzler as "unstable in isolation." It may be of interest to note that Metzler believes that few countries are in the "unstable" class and that, consequently, income movements induced by international shifts in purchasing power will be inadequate to bring about full balance-of-payments adjustment to disturbances.

Professor W. F. Stolper, using a more sophisticated set of assumptions, has recently argued that Kindleberger's point could be valid even if foreign countries were not "unstable" at all. See his article, "The Volume of Foreign Trade and the Level of Income," *Quart. Jour. Econ.*, Vol. LXI, No. 2 (Feb., 1947), pp. 305-08. But Stolper's assumptions seem to me of an even more special sort than those now introduced by Kindleberger. See also the critique of Stolper's over-all argument by G. Haberler, "The Foreign Trade Multiplier: Comment," *Am. Econ. Rev.*, Vol. XXXVII, No. 5 (Dec., 1947), pp. 904-06.

I can think of several other sets of special assumptions that would make Kindleberger's thesis formally valid, but these need not be elaborated here.

⁵ Since Kindleberger chooses to introduce the possibility of dissaving as a factor tending to cause overcomplete international adjustment (although he admits that "in general, individuals tend to save more as incomes increase"), he should not overlook the possibility of induced *disinvestment* as a factor working in the opposite direction. A rise in a country's exports might at times be associated for a considerable period with substantial net drafts on existing stocks of exportable and other goods. Such induced disinvestment, even in the face of dissaving, would tend to make for an incomplete adjustment, unless the dissaving were larger than the disinvestment in absolute terms, *i.e.*, unless the marginal propensity to invest were greater in algebraic terms than the marginal propensity to save. For an interesting illustration of such induced disinvestment in actual practice, see A. F. W. Plumptre, "The Distribution of Outlay and the 'Multiplier' in the British Dominions," *Canadian Jour Econ. and Pol. Sci.*, Vol. V (1939), pp. 369-70.

⁶ I am using the term "induced investment" here in a broad sense to include all increases in domestic investment associated directly or indirectly with rising exports, namely: increased investment in export and domestic-goods industries induced (a) by rising national income (*i.e.*, the acceleration effect); and (b) by increased availability of loanable funds and/or lowered interest rates that might be brought about by an increase in external monetary reserves resulting from the rise in exports.

marginal propensity to invest in foreign countries as a whole is characteristically in excess of the marginal propensity to save so as to create an underlying tendency for increases in aggregate American imports to bring about greater increases in our aggregate exports. Although I am somewhat skeptical of attempts to prove or disprove Kindleberger's point by reference to the actual statistics of American imports and exports, given the large number of autonomous factors at work affecting each, it seems to me significant that during the interwar period increases in our imports were characteristically associated with smaller, and not with larger, increases in our exports.⁷

Kindleberger attempts to support his thesis statistically by reference to the balance-of-payments experiences of Argentina and Australia in 1935-38. But, apart from my skepticism regarding a statistical approach to this problem, particularly from the viewpoint of the balances of payments of individual foreign countries, and the fact that I consider highly inappropriate his selection of countries, I fail to find his evidence even mildly convincing. All that the Argentine statistics indicate is that the rising exports of Argentina in 1935-37 were accompanied by smaller increases in imports (the active trade balance rising steadily in these three years), and that the decline in exports in 1938 was accompanied by a smaller decline in imports (leading in this case to a deficit). Far from supporting Kindleberger's argument, this episode seems to indicate nothing more than the opposite, and normally anticipated, pattern of developments.⁸ If his point were indeed valid, it would appear that the active balance should have *decreased* year by year and have possibly resulted in a deficit at the top of the boom in 1937. Even if the deficit that emerged in 1938 could be construed as evidence of a belated overcomplete adjustment, the statistics cited by Kindleberger refer only to Argentina's *global* balance-of-payments position, and not the position *vis-à-vis* the United States. For similar reasons, I do not find the Australian experience any more convincing, even though total Australian imports did continue to rise in 1938 (though at a sharply reduced rate) when exports declined.

In my original memorandum I had stated that if, as Kindleberger argued, increases in American imports tend to provoke greater increases in exports, the opposite result would seem to follow when imports decline, *i.e.*, a decline in American imports should provoke a greater decrease in exports and thereby

⁷ For a suggested explanation of that pattern, see my paper, "The Mechanism of Adjustment of the American Balance of Payments: 1919-29," *Quart. Jour. Econ.*, Vol. LVII (1942-43), pp. 363 ff.

⁸ Indeed, Kindleberger himself haltingly admits that his statistics might merely reflect "the effects of alternate rising prosperity and depression in the United States" (*op. cit.*, p. 493.) His attempt to show, *via* the composition of Argentina's imports, that the 1935-37 boom in that country was accompanied by *some* induced investment is quite irrelevant for his argument. The really relevant consideration would have been whether or not that investment was *large* enough (relative to saving) to bring about an overcomplete adjustment.

In any case, Argentina's foreign trade in these years was subject to so many highly abnormal influences that I would consider the episode almost worthless for purposes of testing the validity of this argument. See, *e.g.*, V. Salera, *Exchange Control and the Argentina Market* (New York, 1941), Chaps. 6 and 7.

tend to bring about a dollar "surplus." To be sure, I was aware that the relationship need not necessarily be symmetrical for upswings and downswings, but it seemed to me that the burden of the proof as to why this was not so rested with Kindleberger. In his communication he now argues for the irreversibility of his argument on the ground that "it is possible to regard the demand for commodities in international trade as elastic with respect to increases in income and inelastic with respect to decreases," and he refers to the fact that "luxuries have a habit of becoming necessities" (*op. cit.*, p. 494). What I presume Kindleberger means is that whereas the marginal propensity to invest in foreign countries is characteristically in excess of the marginal propensity to save in periods of rising income, so that there is a tendency towards overcomplete adjustment to increases in foreign exports to the United States, the reverse is true in periods of declining income, so that there is only an incomplete adjustment to decreases in such exports.⁹ But, in any case, evidence for this alleged asymmetry is not forthcoming.

Even if one granted the *general* validity of Kindleberger's contention that increases in American imports typically tend to provoke greater increases in exports—which I do not—it would be an entirely different matter to conclude, as he does, that this sequence provides a theoretical explanation for the alleged tendency toward a chronic world shortage of dollars. I would argue that before such a conclusion could be reached additional—and again, I submit, special—assumptions would be necessary. But this involves a far more fundamental problem that lies outside the scope of this note.¹⁰ May I suggest only that before talking of *chronic* dollar shortages one might do well to examine much more closely the concept of "dollar shortage" itself. In this connection Kindleberger might want to reconsider his own bald definition of a dollar shortage as the existence of a surplus in the American balance of payments on current account.¹¹

I hope that the foregoing remarks do not constitute an abuse of Professor Kindleberger's amiable offer "to negotiate on a generous basis" with any critic who contends that he exaggerated the importance of his argument.

ARTHUR I. BLOOMFIELD*

⁹ See also *op. cit.*, p. 493, n. 12. I might be inclined to agree that adjustments to increases in exports tend to be *more complete* than adjustments to decreases in exports. But this is not the point that Kindleberger is presumably attempting to prove (or, rather, should prove).

¹⁰ For some recent suggestive contributions to this problem, see the articles by G. Haberler, T. Balogh and P. A. Samuelson in *Foreign Economic Policy for the United States*, ed. by S. E. Harris (New York, 1948), pp. 426-45, 446-89, and 406 ff.; H. S. Ellis, "The Dollar Shortage in Theory and Fact," *Canadian Jour. Econ. and Pol. Sci.*, Vol. XIV, No. 3 (Aug., 1948), pp. 358-72; F. D. Graham, "The Cause and Cure of 'Dollar Shortage,'" *Princeton Essays in International Finance*, No. 10 (Jan., 1949); J. Tinbergen, "Observations sur le Problème de la Rareté du Dollar," *Rev. d'Econ. Pol.*, Vol. LVIII, No. 1 (Jan.-Feb., 1948), 36-56; and S. E. Harris, "Dollar Scarcity," *Econ. Jour.*, Vol. LVII (June, 1947), pp. 165-78.

¹¹ See *Postwar Economic Problems*, p. 379.

*The author is chief of the Balance of Payments Division of the Federal Reserve Bank of New York.

Rejoinder

I am disposed to accept Dr. Bloomfield's plea of *non mea culpa* in the matter of the Bloomfield-Enke-Salera contention that it is impossible for a country to overcompensate in response to an increase in its exports and end up with an import surplus. I trust he will make a satisfactory settlement with Messrs. Enke and Salera whom he has tossed to the wolves. I would, moreover, ask for dismissal of his countercharges of unfairly eliding assumptions and inelegance on the grounds of irrelevancy.

Two possible issues remain—one of logic, the other of experience. Dr. Bloomfield's contention that logic runs in favor of a presumption that all propositions are symmetrical cannot be accepted. I know of no authority for this bizarre bit of reasoning. Asymmetry at one level, moreover, may be symmetry at another level. If in the short run a country may spend more than its increase in earnings, there is no reason that it should save more when its earnings decrease, although this result is possible. It may be, moreover, that an explanation of the dollar shortage of some considerable generality may be found—if not alone in the tendency of certain other countries to overcompensate with respect to increases in exports—in this, in a tendency to undercompensate with respect to decreases and in opposite tendencies in the United States to undercompensate in respect to increases in exports and overcompensate with respect to decreases. In this explanation there is no symmetry within or between countries; but the over-all model is as symmetrical as anyone might wish.

I am not disposed to debate the facts with Dr. Bloomfield. I have acknowledged the difficulty of verification, although I do not go all the way with Dr. Bloomfield, who appears to despair of empirical testing of any proposition in this field. I cannot, however, accept the proposition that, because more theoretical models have been built by scholars with a tendency to undercompensate than with the opposite tendency, there is a strong argument in favor of the prevalence of this tendency. Without claiming that this makes Dr. Bloomfield "it" in the game of "burden-of-proof" tag, I suggest he might look into the Latin American experience of 1946-48 to see how large dollar deficits can be developed under the stimulus of expanding export sales to the United States; or into the nineteenth-century experience of Britain's debtors who borrowed more in prosperity when their exports rose; or into the history of corporations which have grown prosperous by going into debt.

C. P. KINDLEBERGER*

*The author is associate professor of economics at Massachusetts Institute of Technology.

Libertarianism at Bay

Said Frank D. Graham to Barbara Ward:

"Your economics are deplored.

Your deficit to evaporate

You merely need depreciate."

Said Barbara Ward to F. D. G.:

"The trouble seems more deep to me.

I don't believe the fix we're in

Comes purely from original sin."

In writing this note, the author has no intention of restating why he believes Barbara Ward's *The West at Bay* to be on balance a good book, in the face of Mr. Frank D. Graham's conviction that it is "a subtly dangerous and a highly subversive one."¹ The author is sympathetically predisposed toward Mr. Graham's liberal premises and is in agreement with many of his specific criticisms. But he is in radical disagreement with Mr. Graham's perspective and therefore with his conclusions. The purpose of this note, then, is to question the manner of Mr. Graham's review and to express a doubt whether, despite the self-assurance of his attack, he may have missed the main points of Miss Ward's essay.

There has emerged in recent years a new fashion of egregious rudeness among self-styled "libertarians," who castigate the heretics with such vigor as to cast doubt on the libertarians' confidence in the weight of their logic. In Great Britain, this fashion has been so perfected in the postwar years that it threatens to replace constructive economic criticism by mere dialectical sniping. From the observer's point of view it is often fun to watch the pyrotechnics. But it hardly befits the aspirations of a fledgling social science to treat other earnest searchers for truth in the manner of Lysenko's disciples driving Mendelians from the temple. Nor can the easy victory of the *argumentum ad blurbum* be expected to carry much weight with an audience more interested in the content of a book than with the encomium on its jacket.

It might be argued that the libertarian onslaught is not intended to advance economic understanding or the state of the science among professionals, but is rather directed toward the makers of public policy, or even more broadly toward public opinion in general. If this is the case, the Hayek-Mises-Jewkes-Graham manner (the list does not pretend to be exhaustive) hardly seems well designed to its purpose. Anyone with the merest nodding acquaintance with the professional literature knows that the supposedly self-evident truths and indisputable verities of the libertarians are hotly disputed among the "experts." The layman also observes that in the real world such problems as inflation control, the maintenance of high employment, the provision of reasonable economic stability for agriculture, and the achievement of equilibrium in international trade without intolerable reductions in

¹ See this *Review*, Vol. XXXIX, No. 2 (March, 1949), pp. 548-53. It should be noted, incidentally, that neither Mr. Graham nor I had seen the other's review prior to publication.

living standards or politically impossible readjustments in internal economic relationships in various countries, do not in fact give way to easy panaceas. In consequence, while the layman's first reaction to the libertarian prescription may be enthusiastic—since a dose of freedom would satisfy one of his deepest yearnings—he is likely on more sober reflection to wonder if the excess of heat in the libertarian writing does not conceal an absence of light.

The most remarkable single statement in Mr. Graham's review is his assertion that "the 'dollar crisis' . . . is now (and, perhaps, always was) solely a matter of discrepancy between the controlled external (exchange) value of the pound sterling, and other European currencies, and their (lower) internal values" (p. 552). It is really breath-taking to see Europe's postwar economic problems disposed of so neatly and casually. There is no hint of the difficulties imposed by the loss of prewar overseas investments, by the wartime destruction of plant and equipment and merchant shipping, by the years of capital depletion, by the disappearance of Germany from the European economy, by the drawing of the economic iron curtain across the heart of Europe, by the changed position of the former colonial areas, by the adverse shift in the European terms of trade. There is no concession whatever (unless it be in the little word "perhaps") to the view that in many of the European countries dollar imports have been reduced to minimum tolerable limits by direct controls and that exports have until recently been as great as could be supplied in view of the war-induced dislocations, so that in the short run devaluation would merely have created added internal inflationary pressures and worsened the terms of trade. There is no recognition of the extreme uncertainty regarding import and export elasticities of demand.

The almost unanimous consensus of those with responsibility for international financial policy over the last few years cannot be effectively disposed of by references to "the tradition of Hjalmar Schacht, Thomas Balogh and the bullionists," who may be assumed to have a liking for nationalist controls for their own sakes. The fact is that most of the responsible officials, laymen and economists alike, would have liked nothing better than to whisk away the European economic problem with a few neatly contrived adjustments in exchange rates. The libertarian views are of little moment so long as everyone recognizes that the whole world is out of step except the libertarians. There may be some disadvantage for the profession, however, if laymen are led to believe that the libertarian dogma is shared by all economists, and there is always the more serious, if less probable, danger that a layman in high office might actually follow the libertarian prescription unalloyed.

A few words are in order, finally, on Mr. Graham's patronizing comment that Miss Ward "writes most engagingly, that her heart is in the right place and that, when she does not get beyond her depth, she swims very prettily indeed." Miss Ward's book is not addressed to professional economists and makes no pretense at being an essay in technical economics. It is guilty of a number of economic "howlers." Its prescriptions of policy would be greatly improved by a sounder technical substructure. But the policy issues of European integration are not exclusively or even primarily economic ones. Miss

Ward's argument draws its greatest strength from its historical, political, and moral foundations. Human society has many dimensions. The economic dimension has been better analyzed than most as a matter of intensive rationalization from narrow abstractions. The motivations of peoples and the policies of nations, however, do not lend themselves to such abstractions and there is ample evidence that they are moulded by other factors as much as or more than by the "purely" economic ones. It takes unusual audacity to be certain that, desirable though it be, a full appreciation of the principle of comparative advantage is more relevant to the problem of European integration than an understanding of the moral foundations of western civilization. One can hardly escape the conclusion that Mr. Graham's swimming suffers from a failure to understand which way is down.

LINCOLN GORDON*

* The author is professor of government and administration at Harvard University.

MEMORIAL

Frank Albert Fetter
1863-1949

With the death of Frank Albert Fetter the great company of American economists has suffered an irreparable loss. The profession of economics has grown mightily in numbers and influence in the half century of Professor Fetter's fruitful participation, but it is the paradox of human progress that the loss of a single creative mind cannot be balanced by numbers, knowledge, or prosperity. Rather, new creative minds must arise to the new challenges facing society, drawing not so much upon accumulating evidence for strength, but upon the personality and inspiration of those rare souls who in their time were great enough to recognize truth.

The facts of Professor Fetter's richly productive life are readily available. On his eightieth birthday, two of his colleagues prepared a comprehensive note for the record.¹ It seems fitting, therefore, now that he has completed his course, to comment on those elements of personality and character which must ever be reflected in the creative leaders of our profession if it is to serve mankind in attaining peace and well-being.

Professor Fetter was a friend to all who knew him. He early learned the secret that there is no limit to the richness of one's loyalties. A devoted son, husband, and father, his gentleness and understanding made the circle of his family a place of happiness and peace.

With neighbors, colleagues, and students, his sincere interest in each individual, his sensitivity to another's feelings, problems, and aspirations made him a true friend to an ever-widening circle of people, young and old. Slow to criticize but quick to understand, he helped others by wise counsel, seasoned with never-failing humor. With clear perception he aided all who came to him for guidance to see their problems in the perspective of mature judgment and firmly established values.

From the deep insight into human personality gained over the years as a friend and counselor, Professor Fetter attained a penetrating understanding of both the individual and the community. Before the approach of social psychology was under way, he was ever probing the motives and reactions of individuals and of groups of individuals forming complex societies. He was concerned in what actually took place and not in forcing behavior into a pre-determined mold. He tested his conclusions against those arising in the new discipline of psychology but his Hoosier common sense kept him from being swept away by the enthusiasms of younger pioneers.

Professor Fetter possessed that hall mark of greatness—simplicity. He was approachable to young students and great scholars, to the messenger boy and the president—to anyone in need. He had the capacity of reducing clouded and complex issues to manageable form, often with a touch of pungent humor

¹ *American Economic Review*, Vol. XXXIII, No. 1 (Mar., 1943), pp. 230-35.

that lessened tensions and encouraged objectivity. He had no love for complexity for its own sake. Rather, he sought to trim out the confusion of over-worked pedantry and expose the essential thesis to analysis.

Professor Fetter was never over-awed by man-made authority. He rebelled against the classical economics of his student days and sought to get closer to the workings of the human mind. To him the "economic man" of earlier analysts was a barrier to the deeper understanding of the motives and restraints in human behavior. He thought things through for himself. Thoroughly read in the literature of his field and in the great classics of human thought, he did not permit others to do his thinking for him. It was, perhaps, a blessing that he spent eight years in business before he commenced his professional studies. His guiding rule was: doctors differ—work out your own conclusion.

His love of simplicity and his unwillingness to accept time-honored authority led Professor Fetter into the revision of the whole theory of economic distribution. He was not satisfied by separate, mechanistic explanations, but sought an integrated scheme. He believed that this essential scheme, like most great truths, would be simple, unitary, and consistent. In this he had the sense of dedication of the inspired scholar, whether scientist or humanist, who believes in his soul that God's ways are profound, but never arbitrary. The results of his analysis are still subject to debate. He would be the first to accept this outcome. But he opened new highways into the unknown continent of economic theory, and rekindled interest in pushing out the frontiers of knowledge.

As a teacher, Professor Fetter taught not by precept alone, but by the example of his devoted love for truth. He taught *men* rather than *materials*, and stimulated his students to seek wisdom and to challenge error. His students soon learned that the marshalling of past authority was insufficient to establish any point, and that the proof must arise from one's own understanding and reasoned analysis. His teaching was not a passing on of pre-digested truth, but an encouragement, by high example, sustained interest, and warmth of common understanding, of the student's search for knowledge. To his former students Professor Fetter will always stand, above all, as a guide, counselor, and friend rather than as an exponent of catalogued material.

Throughout his life Professor Fetter was ready to fight courageously for truth as he saw it, at the sacrifice of security, comfort, and health. He was ready to take the harder course of the pioneer and to resist the spiritual corrosion of easy conformance. Although tolerant and understanding of differences of taste, he opposed with great intellectual vigor and incisiveness any departure from the highest standards of scholarly integrity and independence.

But neither scholarship nor teaching alone could satisfy Professor Fetter's sustained urge to improve man's estate. In his earlier years he aided many welfare agencies. He worked for international peace, for the improvement of slum housing, for the institutional care of the sick, and for the improved education of young people in public schools and in correctional institutions. As time passed, he centered his interest in the great threat of monopoly as an undermining force in a free society. In this his deep understanding of economic

forces and his dedication to the public welfare joined to make him a powerful and fearless enemy of confusion and selfish interest. He saw more clearly than any other the growing dangers of the concentration of economic power to the freedom of the individual. Long after most men leave the battle to another generation to carry on, his devotion to the cause of the individual—his freedom and dignity—kept him in the fight against error and ignorance in high places. He spent his last energies in that fight. He died a valiant soldier in the cause of truth.

J. DOUGLAS BROWN

Princeton, New Jersey

BOOK REVIEWS

Economic Theory; General Economics

Introduction to Economic Science. By GEORGE SOULE. (New York: Viking, 1948. Pp. 154. \$2.50.)

This book represents a valiant attempt to describe macro-economics in elementary fashion. It succeeds on the descriptive side but falls short of the mark in its analytical efforts. The reader learns a great many interesting facts and figures but is given inadequate guidance in utilizing them. In view of the title, it is also necessary to add that this book does not provide an adequate introduction to either the scope or method of modern economics. It does, however, raise or rather provoke some important questions of analysis. For this reason, more space is devoted to this review than the importance of the book itself would warrant.

The opening chapter is directed against the "classical theory." It is now widely agreed that both the Keynesian and classical systems can make their contribution to the understanding of economic problems. Yet Soule devotes his entire first chapter on "Economic Fundamentalism" to a condemnation of the classical school.

Soule points to five fallacies of the fundamentalists: the fallacies of "concealed premises," "missing quantities," "omitted factors," "separate pieces," and the "fallacy about human behavior." In his discussion of concealed premises, Soule makes the customary attack on *ceteris paribus* analysis. However, his proposal, as indicated in the rest of the book, is merely to substitute aggregative analysis, making use of national income and a few major components. This is a desirable emphasis but Soule fails to realize that national income analysis may be just as dependent on *ceteris paribus* assumptions as is the partial equilibrium analysis attacked by Soule. If we restrict ourselves to just a few broad aggregates, we cannot analyze the effects of, say, an increase in governmental expenditures, unless we make numerous *ceteris paribus* assumptions respecting individual propensities to consume, invest, import, etc., and exogenous changes in every component of national income or forces affecting it, except the ones immediately under discussion. These are thorough-going assumptions and the mere fact that they can be stated briefly should not mislead us—as it has apparently misled Soule—into believing that somehow we have magically allowed everything to vary at once while we carry on our analysis. If the alternative he proposed were either the Walrasian general equilibrium system or the modern econometric adaptations of either the Leontief or Tinbergen-Klein variety, it would be worth while taking his criticism seriously. These alternatives do reduce the necessity of *ceteris paribus* assumptions. Soule does not, however, propose these or even indicate that he is aware of them.

For many problems, *ceteris paribus* analysis may be used profitably. The fact that not all assumptions are stated explicitly, a matter which troubles

Soule greatly, must also be examined before wholesale condemnation is made. There are actually thousands of assumptions involved in any analysis. Most of them are never stated because they are taken for granted by reader and writer: assume that there will be no major national calamity; assume that people will not become vegetarians; assume that traders on the stock market wish to make a profit; etc. Any one of these assumptions might suddenly become unrealistic and the analysis will then be alleged to contain "hidden" assumptions. Nowadays we often preface our analyses with some explicit assumption about war but in the halcyon 'twenties there was no need to mention this eventuality. The assumption was implicitly there nevertheless. The deliberate hiding of a relevant and important assumption whose reality is known to be controversial is, of course, to be condemned; the mere failure to undertake the impossible task of listing all the innumerable conditions which are generally taken for granted must often be condoned as a necessity. Soule's superficial condemnation of *ceteris paribus* analysis is unfortunately shared by many professional economists—until they try to analyze an economic problem themselves. The econometricians have a workable substitute to offer but until their methods are more widely known we shall have to proceed as before with *ceteris paribus* assumptions and the technique of successive approximations to reality.

Soule's discussion of the other "fallacies" is subject to similar qualifications on methodological grounds. His emphasis on the significance of the full employment assumption of the fundamentalists is well placed and the limited applicability of their conclusions is clearly indicated. The resulting condemnation of their entire system is, however, unwarranted. Now that we have full employment and its inflationary problems, we are beginning to appreciate the keen insight which many fundamentalists have displayed.

Those students who have not otherwise become familiar with national income estimates might profitably be assigned the chapter on that subject, "Keeping Books for All the People" (Chap. 2). The chapters on "The National Income as History" (Chap. 3) and "The Gains in Production" (Chap. 4) also provide interesting summaries of factual data from studies of the National Bureau of Economic Research. These three chapters are marred, however, by the fact that references are made to both Kuznets and Commerce estimates without an indication of the definitional differences which exist between them. Moreover, the exposition of Stigler's interesting work on capital-productivity and labor-productivity (pp. 56-58) is not very clear.

The most valuable chapter in the book—from a descriptive point of view—is the one on "Budgeting for the Whole Economy" (Chap. 6). This contains an explanation of the nation's economic budget as presented in the Economic Reports of the President. Teacher and student can profitably read this chapter. Economists who have not as yet become acquainted with the useful macro-economic device of the national economic budget will find that this chapter provides a convenient means of doing so. Undergraduate or graduate students at any level might be assigned this chapter instead of, or as an introduction to, the President's Economic Reports.

One could wish that Soule's interpretation of the nation's economic budget were less mechanistic and that the author were less ready to reach major conclusions on policy with little or no analysis. The argument for control of prices, wages, salaries, and rents is presented in a few simple sentences, "Nevertheless, one of the most important gates at which to control the flow of spending was that of consumers. One obvious way to keep this gate from opening wider was to retain price control. For if consumers did not pay more for each unit, their spending could not increase, unless there should be more goods to buy. But suppose their incomes did increase. What would they do with the extra money? *Clearly they would have to save it. And, in that case, it would probably be invested* at home (that is, spent for capital goods) or invested or given abroad, thus increasing the spending of foreigners. *Even aside from black markets which may make price control more or less ineffectual*, incomes as well as consumer spending must be limited if total demand is to be limited. Therefore, it was important not only to have price control, but to limit rises of wages and salaries and to control rents" (p. 80, italics added). Here we have in quick succession statements that (1) increased income will be saved, (2) the savings will probably be invested, (3) black markets may make price control ineffectual. If the author is certain of (1), what will be the cause of (3)? Can we say that (2) will "probably" occur? There is lacking an analysis of inter-relationships and a review of some of the other relevant possibilities, such as purchase of government bonds, repayment of private debt, spill-over to uncontrolled activities, and many others. The significance of fiscal pressure is discussed on the next page, after the conclusion on price, wage, and rent control is reached. In the discussion of fiscal pressure, there is emphasis solely on the dollar magnitudes of expenditures and revenues: "The critical item here is the *difference* between government receipts and expenditures that is, the cash surplus" (p. 81). One would not expect a detailed consideration of the qualitative aspects of taxation and expenditures in a short book of this sort but there should at least be some recognition of the fact that such qualitative aspects are of importance.

The concluding section of this chapter, entitled "What Happened in 1947," illustrates the dangers of making a causal analysis of a past period merely on the basis of limited *ex post* data pertaining to that period. Figures are given for 1946 and 1947 on consumers' disposable income, consumers' expenditures, business surplus income (undistributed profits and reserves), business investment, net foreign investment, government receipts and payments. Confining himself solely to this information, the author finds, "The increase of investment which occurred was financed not out of larger savings by individuals, but out of larger undistributed profits" (p. 83). This conclusion is reached merely by comparing *ex post* savings with *ex post* investment. As far as these limited data go, the firms which undertook the investment (no break-down is given between capital goods and inventories) may have been financed by the banks while the firms which saved may not have made any investment in capital goods or inventories. The fact that saving must match investment, *ex post*, does not tell us how the investments were actually

"financed." The effects of credit expansion on the income categories are implicit in the national economic budget but the amount of credit expansion does not appear explicitly in the budget.

The chapter on "Ups and Downs of Business" (Chap. 5) is confined almost entirely to a summary of the Mitchell-Burns volume. Soule dismisses other work on business cycles with the statement: "As more attention began to be paid to the problem, a host of explanations was offered for the persistent rhythms of business activity. It would require a long book to summarize the many varieties of business cycle theory. But such a book would be more confusing than enlightening, since most of the explanations advanced have been based on guesses, partial observations, emphasis on one or two factors which overlooked the rest. Many of the theories are mutually inconsistent; some of the better ones fit some of the facts, but none fits all of them" (p. 62). After this broadside, one would at least expect a theory which fits *all* the facts. None is forthcoming.

In the matter of forecasting, the author exercises commendable caution: "Any forecaster who bases his predictions on a definite or average length of the cycle, or in any other way assumes that it is periodic in the sense in which movements of astronomical bodies are periodic, should be scientifically suspect" (p. 65). Later he says, "This does not mean that forecasting is a hopeless task. But it is by no means a mechanical one, to be performed by some simple trick, like noting a weather sign. We may hope eventually to achieve perhaps as high a percentage of success as the weather man, and by as complex methods. Good forecasting would involve, first, an inspection of forty or fifty statistical series to make up one's mind where we stood in a given cycle, and then the use of shrewd judgment about other factors" (pp. 66-67). Such humility, always desirable, is especially so in view of the limited coverage of business-cycle analysis evidenced by this chapter.

The least satisfactory chapter in the book is the one entitled, "How Money Appears and Disappears" (Chap. 7). The explanation of reserves and of the function of legal reserves is confused and inadequate. There is no explanation of how credit expansion is accomplished through individual banks to the banking system as a whole. Suspicions of confusion are confirmed by such statements as, "It (the member bank) can then borrow from the Federal Reserve Bank in order to lend more to its own customers. The maximum amount it can borrow is of course limited by the size of its reserve" (p. 92). Since lending to customers will increase deposit liabilities and thus reserve needs, it is hard to tell just what the author has in mind here.

In his three concluding chapters, "Private Enterprise in Fancy and in Fact" (Chap. 8), "Planning for Employment" (Chap. 9) and "The International Income" (Chap. 10), Soule presents additional factual information that is interesting and valuable. Among the subjects covered are: concentration in industry, the managerial control of enterprise, the Employment Act of 1946 and the President's Council of Economic Advisers, the Monetary Fund, the World Bank and the International Trade Organization. The discussion of the Keynesian theoretical system is generally satisfactory, considering the small space devoted to it. The by-passing of the interest rate and the misconception

of "hoarding" in the following statement, however, leads one to suspect some confusion in the author's mind: "'Liquidity preference' means the preference people with savings may sometimes have to keep their money in cash rather than invest it. This, when it comes into play, naturally decreases investment. (Keynes held that society as a whole could not hoard money; if money was not spent or invested, it would, as a whole, disappear. For the cash one person failed to spend would diminish by that much some other income" [pp. 106-7]). Some confusion in the understanding of the effects of exports on the national income is also apparent. Referring to the fact that a positive net foreign investment appears as a negative item in the nation's economic budget, he says, "The item is a minus one in the budget because we supplied this part of our product without getting anything currently in return. *This accords with the fact that an export surplus is a subtraction from the income of the country that sends abroad more than it receives, though on grounds of policy it may sometimes be desirable*" (p. 137, italics added).

There is appended a convenient bibliography of about twenty items consisting mainly of the works summarized in the text.

This book is apparently intended as an "answer" to Hazlitt's *Economics in One Lesson*. Some of the well-known elementary textbooks in economics, for instance those of Boulding, Morgan, Samuelson and Tarshis, do contain a sufficient explanation of macro-economic analysis to provide a basis for an effective "answer." The present book does not. It contains relevant factual material and makes frequent allusions to the appropriate theoretical system, but it does not provide the reader with a way of thinking about (as opposed to a way of describing) national economic problems. As indicated above, several of the chapters are well worth reading. The book as a whole cannot, however, be recommended as an introduction to a college course in economics. Its influence on laymen and politicians should generally be salutary in that it argues convincingly for the value of economic statistics and for a continuance and expansion of the work of the President's Council of Economic Advisers.

HAROLD M. SOMERS

The University of Buffalo

History of Economic Doctrines: An Introduction to Economic Theory. By EDUARD HEIMANN. (New York: Oxford Univ. Press. 1945. Pp. ix, 263.)

Considering the brevity of his book, Professor Heimann gives a remarkable presentation and interpretation of the leading ideas of economic theory from Aristotle to J. M. Keynes. His volume presupposes no previous training in economics and it can be read with profit by beginners who want a "short course" in economic doctrine. The book is also useful at a more advanced level because of numerous provocative insights and because of the self-conscious attempt to apply a distinctive approach to the history of economic thought. The point of view is modern in the sense that earlier theories are interpreted in the light of recent views of saving, investment, interest, money, and economic fluctuations. The style is simple, non-technical, and lucid.

Professor Heimann's book is an essay rather than a treatise. The purpose

of the essay is "to show the inward logic, revealed in retrospect, of the development of modern economic thinking and thereby to place the study of economic theory in its proper setting" (p. v). Economic theory is defined as the discipline which has been associated historically with the problem of the allocation of scarce resources in a free-market economy. The adjective "free" is used in a technical sense to designate an economy in which no central authority exercises control over the hierarchy of needs and the allocation of scarce means. The task which economic theory set for itself about two hundred years ago was "to discover and analyze the hidden law of co-ordination and integration in a free economy" (p. 9).

Although Professor Heimann conceives economic theory narrowly as a purely technical branch of knowledge concerned primarily with the value problem, he provides a comprehensive setting for explaining its historical evolution. Since his approach appears to be the main contribution of the volume, I shall attempt to explain it. This involves difficulties because Professor Heimann himself has not given a clear presentation of his approach, and his failure to do so is the chief shortcoming of his book. His thesis seems to be that the method employed by an economist determines the results of his theory. Three main elements enter into the choice of method: (1) the pervading spirit of the age, or what Heimann calls "the forms of man's understanding of himself," examples of which would be supernaturalism, naturalism, and historicism; (2) the general techniques of analysis, the most important divisions of which stem from the circular flow theory of Quesnay and the price analysis of Adam Smith; and (3) the position of the theorist in relation to the class struggle and group conflicts of his time. In taking this view, Professor Heimann rejects on grounds of inadequacy the approach which interprets the history of economic theory primarily as a gradual improvement and refinement in the tools of economic analysis (Schumpeter), as well as the approach which sees economic theory primarily as the rationalization of class and group interests (Marx, Roll, Myrdal). He acknowledges truth in both these points of view and to a degree incorporates them into what he considers a more comprehensive interpretation of economic doctrines.

In the age in which economic theory in Professor Heimann's sense arose, man understood himself in terms of a philosophy of the natural harmony of the universe, and from this was derived the idea of a "natural" economic order. Thus the eighteenth-century conception of nature as rational and bountiful is said to account for the optimism of Adam Smith. Although allegiance to a natural order continued into the nineteenth century, the newer view interpreted nature as irrational and niggardly, and in terms of this Professor Heimann explains the pessimism of Malthus and Ricardo. The shift in the nineteenth century from natural science to history as a methodological guide in man's understanding of himself enabled the socialists to blame social institutions rather than human nature for the evils of society and opened the vista to revolutionary programs of social reconstruction.

Quesnay and Smith were both products of the same age and both believed in the tendency of the world toward pre-established harmony, but they did

not employ the same techniques of analysis. Quesnay's circular flow theory is modeled after laws governing biological organisms, which are subject to functional disturbances. From this beginning there developed the modern theories of functional disturbance, *i.e.*, of economic fluctuations. The followers of Adam Smith modeled their principles of economics along mechanical lines, which, according to Heimann, made it impossible for them to develop a theory of functional disturbance and economic crisis (p. 92). It may, however, be observed that Malthus' ability to break away from the mechanical price theory of the classicists to a type of circular flow theory suggests that method may be less of an independent variable than Professor Heimann contends.

Although Professor Heimann considers class and group bias in explaining economic theories, the handling of this aspect of his approach is such as to minimize its importance. To take one example, his discussion of Ricardo completely ignores the vital role of the corn law controversy in shaping Ricardo's theory of distribution. Professor Heimann is eager to exonerate Ricardo from the charge of being an apologist for capitalism, and rightly so, although Ricardo's intellectual integrity hardly needs defending. It would have been enlightening, nevertheless, to have noted that Ricardo's advocacy of repeal of the corn laws was a program favored by industrial capitalists and opposed by the land-owning interests. As Wesley Mitchell has pointed out, Ricardo's theory of distribution gave theoretical expression to the practical question whether "the power of the state should be used to maintain the high incomes of the farmers and landlords, or whether the import duties should be reduced to safeguard the interests of manufacturers and merchants" (*Trend of Economics*, pp. 5-6).

A disturbing aspect of Professor Heimann's approach to the history of economic doctrine is the failure to deal systematically with the criteria of validity of economic theories. He states at one point, "There is, then, no way of avoiding the uncomfortable conviction that . . . the propositions of economics are unverifiable and irrefutable" (p. 20). Literally interpreted, this means that economics cannot hope to be a science since confrontation of theory with the facts of experience is the prime requisite of scientific inquiry. One wishes Professor Heimann had given more consideration to the nature of the appeal to facts in testing the validity of economic theory. In a forthcoming posthumous volume on the history of economic theory the late Professor Rogin develops the thesis that the appeal to facts in economics cannot be made directly from formal theory, but must be made indirectly by appealing to facts through practice, that is, through the practical policies associated with a theory.

In part, Professor Heimann avoids the problem of validity by defining economics as a purely technical branch of knowledge, thus removing questions of policy from economics and placing them in the realms of politics, morals, and philosophy. Since economics is essentially formal, it tells us nothing about the relative merits of various institutional practices. Viewed in this manner, there is, for example, no *economic* issue between capitalism and socialism—the issue is not even political according to Professor Heimann,

but moral (p. 176). By shunting nearly all important questions of policy into other fields, economics is reduced to an insignificant role in the affairs of men. Economists who wish to say anything about policy do so not as economists but as moralists.

In spite of shortcomings, Professor Heimann has made a valuable contribution to the literature on the history of economic doctrine.

DUDLEY DILLARD

Columbia University

Einführung in die Wirtschaftstheorie. I. Teil, *Theorie des Wirtschaftskreislaufs.* By ERICH SCHNEIDER. (Tübingen: J. C. Mohr [Paul Siebeck]. 1947. Pp. vi, 82. RM. 3.)

Taking advantage of the fact that the theories of price, money, business cycles, public finance, and business economics have recently been integrated into a unified, comprehensive economic theory, Professor Schneider has undertaken the task of presenting a new *Einführung in die Wirtschaftstheorie* (Introduction to Economic Theory) in three volumes. The first volume, entitled *Theorie des Wirtschaftskreislaufs* (Theory of the Circular Flow in the Economy) is now before us. Volume Two will treat of the Theory of the Economic Plans of Households and Firms; Volume Three, of the Theory of General Equilibrium, Money and Employment.

Professor Schneider emphasizes that we cannot understand economic processes if we stop at the visible, objective manifestations of economic conduct; and that we must go back to the individual economic plans (of households and firms, and sometimes governments) which are behind them. Yet, the theory of the individual plans is postponed for the second volume. In this organization, in devoting the first part of his work to aggregative analysis, Professor Schneider follows the example of recent English and American economic texts.

Making the twofold distinction between production plans and consumption plans, and between plans freely made by individuals and plans made by central authorities, Professor Schneider, in the first chapter, sketches four "pure" types of economic systems, and then proceeds to the analysis of the free-exchange (individualistic) economy. In the second chapter he shows how the financial statements of individual households, firms, banks, and governments can be consolidated in a "national wealth" account for the economy as a whole.

The core of Professor Schneider's analysis is in the next three chapters, dealing with the economic process in a *closed* economy *without* government activity (Chap. III), in an *open* economy *without* government activity (Chap. IV), and in a *closed* economy *with* government activity (Chap. V). These are, in the main, variations of the Keynesian themes that Saving equals Investment (Chap. III), that Saving equals Domestic Investment plus Export Surplus (Chap. IV), and that Saving equals Private Investment plus Budget Deficit (Chap. V). These main themes, however, are developed in an original way and harmonically combined with subsidiary themes.

The "macro-economic equations" are derived from the income accounts

of individual households and firms. Schneider begins with the accounting system of an individual firm and demonstrates the entries that are made in the books of the firm for each of the six "steps": payments, purchases, costs, production, sales, and receipts (p. 32). He takes the reader through the accounting procedures of the firm in order to lead him gradually to the consolidated national income account. This is an excellent procedure because, among other things, it can clarify, in one pedagogic sweep, as it were, a number of different concepts: gross income, gross investment, depreciation, net income, net investment, value added by manufacture, personal incomes, etc. Unfortunately, the formulation by Schneider is not quite satisfactory, because the exposition of accounting techniques is not sufficiently lucid. Without previous training in accounting, students will hardly be able to follow the argument closely enough to comprehend thoroughly all relevant relationships.

Professor Schneider mentions (p. 53) that all his macro-economic equations reflect merely the flow of goods and services, but not the flow of money; they reflect purchases and sales, but not payments and receipts. He also mentions repeatedly (pp. 47, 49, 52, etc.) that the quantities involved are *ex post* and that the equations therefore do not represent statements of causal relationships. But these warnings are probably more than neutralized by formulations which suggest causal or functional relationships. For example, the equation "Total Income of Entrepreneurs is *equal* to Total Investment *minus* the Saving of Non-entrepreneurs *plus* the Consumption of Entrepreneurs" is called an "especially important relationship" (p. 51) and the conclusion is drawn that the income of entrepreneurs will be higher the greater the amount of investment, the greater the consumption of entrepreneurs, and the smaller the savings of non-entrepreneurs. How many students will avoid the impression that any changes in *any* of the terms on the right side of the equation must *cause* the income of entrepreneurs to change accordingly?

Similarly misleading formulations appear in the analysis of fiscal policy. It is stated, for example, that "the total amount of direct taxes paid by entrepreneurs is irrelevant for the total amount of income of entrepreneurs" (p. 73). Two definitions had preceded the analysis: (1) business taxes were included in "direct taxes paid by entrepreneurs" and (2) taxes were included in the "income of entrepreneurs" (pp. 70-71). In other words, this income was meant to be what we usually call "income before taxes." Does it then take any "proof" to "conclude" that the amount of taxes is irrelevant for the amount of income? But if we are to reach this conclusion from a series of equations, is it not almost inevitable that the reader forget the definitions and attach policy implications to the result? On the same page Dr. Schneider deduces from his equations that "an increase in the budget deficit by a given amount will, *ceteris paribus*, automatically result in an increase of the total income of entrepreneurs by the same amount" (p. 73). How many students will remember that statements of this sort are supposedly without causal significance and, hence, should not be directly applied to questions of economic policy?

The best passage in the book, in my opinion, is the exposition of the relationship between micro- and macro-economics. Since the book is not available in English, I believe I am justified in supplying here a free translation of the essential parts of the passage (pp. 54-55).

"In principle the actual course of the economic process is determined by the decisions and conduct of the individual economic units [the individual households and firms]. Any analysis of the economic process, therefore, must go back to the acting economic units. . . . It is possible in our theory to comprehend the course of the economic process as a result of the interaction of the decisions of the millions of small economic units in the modern economy. Indeed, only in this way can we obtain a really clear insight into the relationships determining the course of the economic process. . . . The number of relationships, however, which enter into such a micro-economic analysis of the total economic process is obviously so large that such a theory, with its implied attention to detail, is difficult to use for practical purposes. Economic policy needs easily comprehensible relationships between quantities which are few in number and essential for steering the economic process. For this reason it is necessary to reduce both the number of the quantities determining the course of the economic process and the number of the relationships between these quantities. We can do this if we aggregate the single economic units into large groups appropriate to the setting of the problem to be dealt with and confine our analysis to the relationships between these groups as supposedly homogeneous economic aggregates. . . . In this fashion we succeed—especially in the study of monetary relationships—in obtaining a greatly simplified picture of the relationships relevant to the process as a whole. . . . Naturally, such a macro-economic theory leads to results which are less enlightening and more uncertain than the results of a theory designed to explain the relationships between the smallest economic units. The significance of the results of a macro-economic theory and its quantitative reliability will be smaller the larger the size and the smaller the actual homogeneity of the groups with which the analysis operates. Nevertheless, macro-economic theory is simply indispensable for practical economic policy, because for technical reasons the individual households and firms are to a considerable extent beyond the reach of economic policy. Hence it is incumbent upon economic theory to make both types of analysis: a 'detail' analysis of the relationships between individual economic units and a 'bold-strokes-of-the-brush' analysis of the relationships between groups composed of individual economic units."

Fritz Machlup

The Johns Hopkins University

Economics—Principles and Applications. By JAMES HARVEY DODD and C. W. HASEK. (Cincinnati: South-Western Publishing Co. 1948. Pp. vi, 728. \$4.50.)

The authors of this introductory textbook belong to the category of educators whose objective is to appeal to the law of least resistance for sustained interest and effective comprehension of what economics is all about. The

central idea in this objective is to fit the presentation of materials to the intelligence of the average student, because what serves him "serves best the needs of all students." On this basis the students can get on "without much assistance from the instructor" who, it may be added, upon exacting attention might acquit himself of his stewardship by surprising everybody, including himself and the registrar. To be sure there is nothing amiss about the law of least resistance provided that the consequent law of large numbers does not involve a probability of self-deception. The accountancy of physical phenomena does not lend itself to social relationships, in which respect a tough proposition calls for a tough discipline.

The text is not organized on the analysis of the income approach, but follows the orthodox set-up. It starts with the nature and scope of economics and social organization, largely in an historical setting. Part II deals with a descriptive amplification of production of wealth and income and is followed by consumption of wealth and income. The next three sections deal with money and credit; value and price; and the distribution of national income. The last 250 pages are allotted to problems of labor-management; other economic problems, *i.e.*, business cycles, economic security, agriculture, war economy, international economic relationships; economic significance of government; and the challenge to American capitalism (socialism, communism, etc.)

There is no doubt that the authors have accomplished what they set out to do. They have been painstakingly meticulous in delivering a painless job for the student and a thoroughly commendable job for the registrant. Anything of this sort must necessarily involve an easy-going vocabulary, so that the fundamental economic tendencies can "be presented in as nontechnical form as possible." That is what is said in the preface, and there is no doubt of its superior negotiation. The presentation is further facilitated by numerous photographic reproductions of industrial and trade activities, historical charts, maps, several of the simplest of analytical diagrams, and questions and problems and suggested readings appended to each chapter. It all adds up to a well-lubricated delivery and may be considered an innovation for the instructor and students who, the publishers say, "have heard rumors from others that this book is really teachable and understandable."

Among the introductory chapters that deal with institutions in their historical and behavioristic aspects, the weakest ones are on the Evolution of the Economic Order, Mercantilism, and Capitalism. What strikes one foremost about these chapters is the retelling of shallow tracts that should have had the benefit of contributions of the Max Weber-Talcott Parsons-John U. Nef scholarship. The fellow who reads these sections will really get little that is decent about the genesis and evolution of capitalism. He will get very little about the fundamentally propelling impulses that underlie economic freedom and the transformation of economic institutions. Capitalism is not synonymous with the era of great inventions as the authors seem to indicate; nor can it be said that the great inventions occurred with the explosive force of mid-eighteenth century new departures. A brief survey of the industrial revolution should, at least, make mention of the intellectual de-

velopment of the period of the Reformation and Renaissance that exerted a great stimulus upon the natural sciences and technology, and of which the era of significant mechanical inventions is a subsequent development.

The authors' contention that "with reference to matters economic, prices are all important" is found wanting in a variety of price problems and analytical processes that serve the student as a foundation and as an instrument of refined and ultimate calculation and comprehension of price changes. Only one hundred pages are given over to value and price, of which about forty deal with government-controlled prices, and prices and the value of money. This last topic includes a two-page summary of the income theory of John M. Keynes. Admittedly, the sophomore will get a smattering of price theory and some of the underlying facts involved, but, as well, he might find himself in a state of bewilderment should he become ambitious and tackle some of the suggested readings. Again, the unfledged junior will take another look around should his curiosity urge him to dig somewhat deeper into the analysis of the distribution of national income. There is an amorphous mass of stuff here, especially on the theories of wages, interest, and profit that lacks the tooling of the marginal calculator and the principles of joint-cost relationships. An example of unconstrained detachment with which the analysis of the relations of profit to prosperity is rendered is the authors' application of Say's law of markets to the behavior of the business cycle in 1929 (p. 439). On the topic of loans it is held that government "is not limited as to the same means of repayment as is the individual, and it is not actuated by the feeling of personal need" (p. 421). Maybe it isn't! But as an unqualified account the statement displays an undisciplined temper about what the financial responsibility of government is.

The props for balanced production are to be found in the lessened inequality of incomes which rests on the quadrupled of social insurance, control of monopoly, encouragement of small business, and better housing and education. We'll conjecture that it is to be an education in the Marshallian sense—that public money may flow freely "to educate character, faculties and activities . . . toward a wider understanding of social responsibilities of economic chivalry."

ERWIN GRAUE

University of Idaho

Dictionary of Modern Economics. By BYRNE J. HORTON, JULIEN RIPLEY, JR., and M. B. SCHNAPPER. (Washington: Public Affairs Press, 1948. Pp. ix, 365. \$5.00.)

The contents of this book are perhaps best summarized by its half-title: *A Handbook of Essential Information Concerning the Basic Terms of Business, Finance, Commerce, and Modern Economic Society*. Its purpose is "to assemble and coordinate—primarily for the layman and incidentally for the college student—reasonably broad definitions of those terms which cover the economic facts of life."

On the whole, the book accomplishes its stated purpose with a high degree of success. Containing some 3000 entries, the dictionary includes widely

diverse topics and terms in the fields of economic theory, statistics, money and banking, international trade, public and private finance, business organization and practice, labor, and related areas. Numerous acts of federal legislation (chiefly in the New Deal period) and a number of court decisions are listed and briefly described. Of interest to the specialist in economics—principally for purposes of convenient reference—are the biographical sketches of some 125 or more leading economists, living and dead, with an indication of their contributions to the history of economic thought. Numerous bibliographical citations appear in connection with the definitions of specific terms. Considerable factual information, some nonessential, much practical, appears between the covers.

As measured by a rough "marginal utility" yardstick, the book appears to satisfy the criteria of comprehensiveness and carefulness, particularly for a first edition. Such terms, unfamiliar to the layman, as forced saving, the multiplier, the acceleration principle, the various "marginal" concepts, secular stagnation, the propensity to consume, the different degrees of monopoly, etc., are treated with sufficient clarity and accuracy to be useful to the intended audience. No pretense is made to definitive treatment of the kind afforded by the Encyclopedia of the Social Sciences, or required by the exigencies of a graduate curriculum in economics. Still, the bulk of the material has been prepared with sufficient care to satisfy the fastidious.

A few exceptions may be noted. On page 204, the "long and short haul principle" is defined as "an early practice among railroads by which a given shipment of goods would be carried a long distance at a lower rate than that charged for a shorter distance." By failing to add the words "over the same route" the authors have failed to identify the principle at issue; as the material stands, the statement and the related context are substantially incorrect. On page 325, one might wish for a more felicitous word, in a dictionary for laymen, than "justified": "Tariffs have been justified on the ground that they serve as means of national revenue, protect domestic industries, safeguard the wage level and standard of living [etc.]." A minor error appears at page 3 wherein the case of *Adkin v. Children's Hospital* is cited as involving the Oregon, rather than the District of Columbia, minimum wage law.

Suggestions that the book may be lacking in terms of balance are found at various places; e.g., "producer's surplus" is defined, but the more common "consumer's surplus" is omitted; "substitution effect" and "explicit cost" are included but "income effect" and "implicit cost" do not appear (although the latter is given as the definition of "imputed cost"); a minor federal agency such as the War Damage Corporation is listed, but the War Production Board is overlooked. A more substantial criticism is the spotty listing of federal court decisions. The eighteen or twenty cases cited, virtually all concerned with labor, are hardly representative of the major decisions of the Supreme Court affecting the American economy. (The usefulness of the list, especially for purposes of citation by the user, would be improved by including the volume and page number of the decisions.)

But these defects are for the most part minor, and are far outweighed by

the successful treatment of a multiplicity of commercial, financial, and business terms and institutions. The book is a welcome addition, and it should find wide use among businessmen, government workers, journalists, librarians, and others in need of a convenient reference manual in the field of economics. The authors are to be congratulated for their courage in undertaking a formidable task, and for their willingness to make currently available the fruits of their efforts at the risk of offense to sterile perfectionism.

R. ELBERTON SMITH

Northwestern University

General Education in the Social Studies. By ALBERT WILLIAM LEVI. (Washington: American Council on Education. 1948. Pp. xvii, 336. \$3.50.)

This volume is one of four reports of the Cooperative Study in General Education which the American Council on Education in collaboration with various colleges undertook with a view to exploring the possibilities of improving existing programs of general education. It derives its value and its practical usefulness as a source of suggestions for other colleges and universities from the fact that it describes in a very detailed fashion how some colleges approach the problem of setting up a two-year basic integrated course in the social studies; it also contains a helpful course outline as well as an extensive reading list. Beyond these practical features, the report provides a stimulating discussion of the general philosophy and assumptions which underlie the current emphasis on general education in the organization and planning of the undergraduate social studies curriculum. As such, it carries an important message to those economists who as specialists in one of the social sciences still view with skepticism this important trend in American education which seems to sweep the country like wildfire.

"The primary objective of curriculum planning in the social studies is to give an integrated and comprehensive picture of the nature of modern society" (p. 226). The traditional social science curriculum is said to have failed in this respect precisely because of its departmentalization. "Competing courses in history, sociology, political science, economics, anthropology, psychology, and geography exist side by side making their claims for student acceptance without any realization of the coordinate role which they play in the understanding of the social order as a whole" (p. 223). This failure of each isolated discipline to provide an understanding of the whole of society is in peculiar conflict with the presuppositions of a democratic society. Responsible participation in the democratic way of life depends upon an understanding of the social order as a whole as well as on the promotion of habits of democratic living, neither of which is achieved to an appreciable degree by isolated specialized studies. Even if specialized terminologies and techniques of analysis had not heightened the difficulties of intercommunication between the isolated social sciences, the free elective system together with an inadequate counseling system would in themselves be sufficient to defeat the attainment of a continuous and integrated general education in the social sciences. These are the considerations which seem to inspire the current emphasis on general education in the social studies which

found its earliest expression in the Columbia Contemporary Civilization course and which has now assumed the character of well established two-year integrated basic courses in numerous other colleges and universities.

The present report goes, however, far beyond the point of setting forth the general philosophy of the social studies program. It raises a host of detailed questions concerning the organization, content, administration and teaching of the program. Among these questions are the following: What is the proper approach in setting up the comprehensive social science course? Is it the historical approach, the problems approach or a systematic approach; or a combination of these three? Is the course to be conceived and planned as terminal, transitional or introductory and exploratory experiences in general education? At which time during the period of a four-year college education should the course be given? Should it be a free elective subject or should it be required of all students? Should the course be taught by one instructor or should the various parts be handled by different specialists?

According to the author, the best method of integrating the social studies for the purposes of providing an integrated picture of the nature of modern society is the conceptual scheme of cultural sociology and cultural anthropology. This broad conceptual scheme is believed to provide not only the most satisfactory combination of the three possible approaches mentioned above but determines also what constitutes the indispensable knowledge in the social studies and hence the indispensable content of the social studies course as it is conceived by the author of the report. This broad frame of reference which makes it possible to draw upon the results and techniques of analysis of all the social sciences leaves sufficient room for placing special emphasis on problems which at any given time seem to require special emphasis in the light of the needs of the students in each local situation. (One of the most original suggestions of the report which in fact is presented in such detail that it takes up a major part of the volume is the elaboration of an inventory of social beliefs and attitudes among students designed to reveal areas of special prejudice and bias on such problems as the public debt, labor relations, minority questions, etc.)

The report conceives of the social studies course as a terminal experience (that is, not preparatory or transitional to specialized work) primarily because it is thought that the demands of specialized work must be a matter of secondary rather than primary consideration in the light of the philosophy of general education. It considers the social studies program as a really co-operative enterprise of the social science faculty; as such, it should be constructed, taught and administered jointly by all within the division of the social sciences. It should be taught as a continuous course by one instructor and any attempt to turn over its constituent parts to the sociologist, the historian, the economist and the political scientist should be resisted. As an integrated course designed not only to convey the "indispensable knowledge" on the nature of the society we live in but also to develop a considerable degree of study skills, of critical thinking, and of attitudes indispensable for living in a democracy, the social studies program can not be a free

elective subject but should be required of all at the general education level of the American college.

The reviewer's criticism is not concerned with the basic philosophy of the social science program. On the contrary, I wholeheartedly concur with the view that the traditional social science curriculum conveys only a fragmentary and hence an inadequate and misleading picture of the society we live in. Because of these convictions it appears to me that the author takes it too easily for granted that the social studies course must be conceived as a terminal experience at the college level and cannot be planned as a transitional course to the specialized work which is to follow. I believe that this is due largely to the special approach favored which seems to neglect unduly the study of original source material and of the growth of ideas, basic concepts and theories in terms of which man has attempted to interpret the social and economic reality of his time. As far as the transition to specialized work in economics is concerned, it is easy to see for example that social studies programs which include the reading of original source material from the writings of let us say Thomas of Aquinas on just price, the mercantilists on the balance of trade and the effect of precious metal, Adam Smith, Ricardo, Malthus, Schmoller, Marx, Veblen, W. C. Mitchell, Beveridge, to name only a few, would provide a fruitful preparation to the more specialized work for the economics major. I am sure that the same applies to other disciplines.

The fact that such an approach would necessitate an adjustment of the traditional economics curriculum and that very little has been done to this effect even in institutions which place greater emphasis on original source material and the historical approach does not defeat our argument. The trouble lies rather in the fact that only a small group in each department is called upon to participate in the social studies program and that as a result the majority of the members never acquire a first-hand insight and interest in the subject matter of the course and hence are unable to judge its potentialities as an introduction to their own specialized work. As far as the transition to specialized work in economics is concerned, probably the best stepping-stone would be provided by a course in the history of economic thought offered concomitantly with a basic principles course in the junior year. Doubtless a survey of alternative approaches to the organization of social studies programs and a detailed evaluation of social science courses in existence at other institutions would have provided a clue as to how this transition from general to specialized education might be achieved to the mutual advantage of both. It is to be regretted that the cooperative study in general education did not devote any attention to such a comparative evaluation of existing general education programs in the social studies; such an evaluation remains one of the most important needs at this time when the whole problem of social studies courses is under scrutiny by colleges and universities which so far have introduced such programs only on an experimental basis.

K. WILLIAM KAPP

Wesleyan University

Economic History; National Economies

The Development of Southern Sectionalism, 1819-1848. By CHARLES S. SYDNOR. Vol. V of *A History of the South*, edited by W. H. Stephenson and E. M. Coulter. (Baton Rouge: Louisiana State Univ. Press. 1948. Pp. xii, 400. \$6.00.)

The South During Reconstruction, 1865-1877. By E. MERTON COULTER. Vol. VIII of *A History of the South*. (Baton Rouge: Louisiana State Univ. Press. 1947. Pp. xii, 426. \$5.00.)

With the justifiable pride that accompanies distinct achievement, Louisiana State University and the University of Texas have launched their new series in the *History of the South*. The initial volumes by Charles S. Sydnor and E. Merton Coulter provide ample evidence that a major contribution to American historiography is in the process of completion. As a work of synthesis, drawing upon the findings of countless individual monographs and primary sources, this series will offer a valuable tool to many scholars interested in regional developments.

Adhering to the general method utilized in previous multi-volume cooperative projects, the editors have contemplated a ten-volume series, entrusting the responsibility for each study to a capable specialist in some period of Southern history. Although the division into time units occasionally may seem to be arbitrary, since the forty-one years covered jointly by these two volumes receive as much space as the entire colonial period, one cannot deny that standards of current interest, and, to a lesser degree, the availability of source material, virtually determine the emphasis.

The years which were assigned to the present authors are certainly of crucial importance. The vindictive and unfortunate Reconstruction era was largely the consequence of bitter sectional antagonisms that had developed during the preceding generation. A reading of Professor Sydnor's book affords an opportunity to understand how the South came to assume an increasing attitude of local self-consciousness. In explaining the transition from nationalism to sectionalism, the author stresses the gradual reduction of Southern influence that occurred between 1819 and 1848. "At the beginning of the period under review," we are told, "Southern politicians and statesmen well-nigh dominated the Federal government; before it was ended they had seen their region decline to a subordinate political position." While the interpretation may at times underestimate the continuing influence of Southern leaders in high national office and the voice of the Southern wing of the Democratic Party, the chapters on political sectionalism, "Regionalism in Mind and Spirit," and "Party Allegiance or Sectional Patriotism?" provide splendid insight into the real and occasionally fancied grievances of the South. This defensive position was eventually restated as a positive affirmation of the virtues of slavery and the plantation economy.

In *The South During Reconstruction*, Professor Coulter's work, this trend is likewise in evidence. Reacting against the physical devastation of the war and the policies of Congressional Reconstruction, the latent resentment of the South crystallized in the activities of the Klu Klux Klan. Quite legiti-

mately the author observes that the poor whites, with whom the Negro had traditionally come into economic competition, were "at the bottom of nearly every assault and battery on the freedman." However, the apparent admiration for the Klan's "artistic" and "humorous" techniques, which achieved "remarkable results" through "cleverly organized" intimidation, sometimes colors the account. Considerably more satisfactory is the description of the methods of social and economic ostracism that were employed to stamp out the vestige of white radicalism. By 1877, as a result of southern resistance and the emergence of moderate national leadership, the former Confederate states were in a position to resume their standing in the Union. The radical version of Reconstruction, in the opinion of the author, had proved to be a dismal failure.

In allowing a comparison of the South's economic status before and after the War between the States, these volumes are especially useful. During both periods the South was vulnerable to the consequences of sudden depreciation in the price of cotton, invariably the chief money crop. Although the economy in each instance was identified with rural society, Professor Coulter points to the growth of urban population during the decade which began with 1860. Its relationship to increased industrialism was generally valid, in spite of the fact that the Carolinas and Georgia, whose urban growth was less than the national average, progressed considerably as manufacturing states. Nevertheless, the account gives the dubious impression that no Negroes worked in the cotton mills because they were incapable of attending to the looms with efficiency. Certainly this interpretation fails to take cognizance of the successful prewar experiment with Negro labor conducted by the Suluda River, South Carolina, textile factory. Nor does it consider the obstacles to Negro employment which were created by the hostility of white labor and the various state license requirements that confronted the freedman seeking non-agricultural work. Similarly, Dr. Sydnor's book, in its attempt to stress the predominance of agriculture, perhaps underestimates the significance of Southern manufacturing as a whole. In maintaining that there were only about 100,000 persons engaged in Southern manufacturing at the time of the Census of 1820, the approximation tends to overlook the large numbers of slaves who were trained in plantation handicrafts. These occupations were not listed in most census reports, but they are too important to be ignored. However, the author has honestly acknowledged that he is aware of the imperfections of the early tabulations, and "is using the census without interpolating warnings and cautions" only because of a scarcity of better source of information.

Each of the writers also considers the significant question of Southern economic vassalage. Although he recognizes that New York's merchants as early as 1822 had "secured most of the business of handling goods that went south in exchange for Southern staples," Dr. Sydnor repudiates the notion that the South's export trade was really under external domination. Even during the 1830's there was little more than oratorical criticism of alleged Northern interference with the direct trade relations between the cotton states and the rest of the world. To Dr. Coulter, on the other hand, the

problem seems far more acute. Speaking of the long-standing dependence upon the North, he maintains that the situation became even more malignant during the era of Reconstruction. The subject of plantation ownership and investment by absentee Northern capitalists receives special attention, though it is largely slighted in the other book. And yet the problem is of major consequence if one is to understand the motives of the secessionist element in New York City during the Civil War.

A further comparison of the two volumes demonstrates that Professor Coulter, to a greater extent than his colleague, has concentrated upon the internal condition of the South, deliberately ignoring many simultaneous federal developments. Thus even the Congressional debates over Southern Reconstruction receive only abbreviated attention. In Dr. Sydnor's study the national policies affecting the South, such as the Missouri Compromise, the presidential elections, and the Nullification movement, are explored with more adequate detail. The key to this difference perhaps lies in the fact that the South had taken an active part in the ante-bellum politics of the nation, whereas the years immediately after the war witnessed a period of substantial eclipse.

In general, the two books adhere to the same method, providing scholarly and well-written evaluations of Southern life. Both works seek to achieve a balance in the various questions selected for discussion, offering appraisals of such widely divergent topics as transportation, agriculture, local government, education, and social theory. The bibliographic essays contain useful commentaries on the extant manuscript and printed sources. While the interpretations of native Southern institutions are relatively uncritical, this series, when completed, will provide our basic storehouse of information about the region for many years to come.

LEONARD PRICE STAVISKY

*New York State Teachers College
Oswego, New York*

New Paths for Japan. By HAROLD WAKEFIELD. (New York: Oxford Univ. Press. 1948. Pp. viii, 216. \$3.75.)

Since the opening phases of the occupation of Japan the problem of economic policy has been one of foremost consideration by the Allied authorities. Initial methods of adjusting the economy of Japan to a modern, peacetime social system followed a generally non-conservative pattern. In recent months, however, economic policy for Japan has undergone significant changes bordering on more moderate principles. There is under way a testing of the relative empirical values of given sets of principles and policies in relation to the peculiarities of Japanese society.

New Paths for Japan, a sequel to the Royal Institute of International Affairs, Chatham House Study Group report, *Japan in Defeat*, is an attempt to clarify many problems of economic policy. It has an added value to American economists interested in Japan because it represents the thinking and interpretation of a British authority. The book is concerned in several

sections with descriptive political material, but this is supplementary to concise treatment of economic matters. The various trends resulting from the application of respective economic policy can be traced clearly.

The subject matter of the chapters on the prewar economy of Japan is adequately developed for the purpose intended. Some exceptions, however, may be noted. For example, the policy of Finance Minister Takahashi Korekiyo in *de facto* depreciation of the yen in 1931 is viewed as a financial achievement, without indicating that such a policy actually increased the cost of Japan's imports and caused the terms of international trade to shift against her. The depreciation of the yen was successful for Japan only in that she was able to create foreign exchange holdings for imports of war materials, and this was largely supplemented by a series of stringent exchange controls after May, 1933. As for the statement by the author that the foreign exchange rate remained stable between 1932 and 1936, it is assumed that the period following October, 1932 is meant, as the first ten months of 1932 experienced the greatest fall of the yen on the exchanges. There is, however, evidence of the correctness of the author's view that the yen was not deliberately undervalued after 1931 in that the *de jure* act of Japan's divorcing gold and the yen externally was reflected on the exchanges as the yen floating to its own level in relation to other currencies. The decline in the exchange value of the yen occurred mainly because of *anticipation* of internal depreciation, which was not manifest in price indices or latent in increased note circulation.

A development of the economy of Japan at war involves the author in a controversy regarding the idea that Japan based her war economy on the assumption of an early and complete victory. His principal opponents in this controversy are the *Report of the U. S. Strategic Bombing Survey* and Jerome B. Cohen, "The Japanese War Economy, 1940-1945," in the *Far Eastern Survey* (December, 1946). The latter indicate that the gross national product, adjusted for price change, rose some nine billion yen from 1942 to 1944, indicating a belated production effort upon realization of extended warfare. The author makes a convincing point that actual production indices of basic industries refute the theory embodied in the *Bombing Survey*, not to mention the fact that the national product devoted to war production increased only in a near-direct proportion to an absolute fall in consumption. It would appear from the evidence presented that complete reliance cannot be placed on the *Bombing Survey*, inclusive as that study is, as a basis for interpretation.

The final three chapters contain material of the greatest interest to economists concerned with problems of policy in the occupation of Japan. The author does not hesitate to take issue with established policy when his observations seem to warrant it. An example is his reference to the initial exchange rate, pegged at 15 yen in relation to the dollar up to March 11, 1947, as being a "preposterous overvaluation of the yen." Comment on this point is necessarily restricted to the fact that overvaluation and undervaluation of exchange rates, with specific reference to possible effects on trade, are

relative terms; so-called overvaluation, *per se*, does not necessarily retard exports. Moreover, as dollar-yen purchases by United States personnel were practiced in the initial stages of the occupation, an overvalued rate tended to be anti-inflationary. The adjustment of the rate to 50 yen to the dollar following March 11, 1947 has presumably relieved the author somewhat, although the matter of pegging the rate until some measure of price stability in Japan can be effected remains a problem to the authorities.

Redistribution of wealth in Japan is treated within the broad scope of general economic policy. The social systems represented by the governing Allied Powers—America, Great Britain, and Russia—are presented as three broad courses for acceptance by the Japanese: namely, free enterprise, social democracy, and communism. The author indicates that the course of free enterprise is the least likely to be adopted, and, moreover, would be undesirable, since it would lead to the development of new monopolies and would be unacceptable to organized labor. The alternative course is suggested as that of social democracy, along with the usual arguments of state ownership of principal industries in Japan.

The idea of socialism as a core of the future economic system of Japan would seem to be the antithesis of a fundamental aim of security in the Far East. Socialism for politically immature peoples is likely to be the first step toward communism. There is no reason to believe that new monopolies will arise, contrary to the basic policy of the Allied Powers. Such reasoning places no faith in future leaders of Japan, nor in antitrust measures and their enforcement. The fact that free enterprise would not be acceptable to Japanese labor leaders is hardly an argument, in itself, against liberal capitalism in its true sense. The real problem for free enterprise in Japan, as the author seems to suggest, is that concerned with demand for private capital. This problem presents itself as a result of severe treatment extended by occupation authorities against former entrepreneurs. If free enterprise is to emerge the victor in the struggle the author describes, provision will have to be made to encourage foreign investment on a wide scale, especially in the closing phases of occupation and the initial period of post-occupation.

Irrespective of any political overtones, this study represents a definite contribution to current economic literature; especially so because it is the work of an established, prewar authority on Japan. As such, it should find wide interest among those economists who specialize on the Far East.

DONALD P. RAY

Academy of World Economics
George Washington University

Political Economy in the Modern State. By HAROLD A. INNIS. (Toronto: Ryerson Press. 1946. Pp. xix, 270. \$4.00.)

This volume by the head of the department of political economy of the University of Toronto is a reincarnation of a number of papers on a variety of subjects which have been buried too long in such esoteric tombs as the *Queen's Quarterly* and the *Transactions* of the Royal Society of Canada.

They now become available to a wider audience of students and scholars, both of whom will find much here that is both illuminating and rewarding.

Professor Innis is not the kind of scholar who labours mightily for a generation only to produce a single massive volume in which a well-masticated text rests neatly on top of an orderly pile of footnotes which support the slender edifice. Here, to change the metaphor, is economic history on the wing. The author ranges across the facets of a series of ideas, dazzling the hard-working reader with strange lights and novel perspectives. The chase is arduous, but rewarding. Most of the essays concern economic theory and political science. They emphasize the significance of the title—the essential oneness of the social sciences and their importance to one another and to mankind.

The papers fall into two main groups: the first of which is economic history, and the second, the place of the university and especially of the social sciences in political society. The opening pair—the brilliant "The Newspaper in Economic Development" and the somewhat less successful but nevertheless stimulating "An Economic Approach to Literature in the Nineteenth Century"—show how much economic history can contribute to the study of letters and to the evaluation of the political significance of literature. Related to these are three other notable contributions to economic history. "The Penetrative Power of the Price System," "Liquidity Preference as a Factor in Industrial Development," and "Unused Capacity as a Factor in Canadian Economic History." The second group is concerned with the role of the university and its main theme is stated in two sombre and thoughtful essays, "A Plea for the University Tradition" and "The University in the Modern Crisis." The remaining six essays are slighter and their themes are pendant to the main groups mentioned above.

Since reviewing space is a scarce resource, it is necessary to discuss only those aspects of Professor Innis's essays which seem to demand special attention. It is unnecessary—as well as presumptuous in a reviewer who is not an economic historian—to discuss the contribution of this volume to economic history. The author's reputation is established and the titles of the essays on economic history will be guidance enough to his fellow scholars in that field.

Their significance as economic history by no means exhausts the importance of the first group of essays. They are valuable contributions to an understanding of Canadian political development. They abound in arresting and fruitful generalizations about Canadian political behaviour and the nature of Canadian federalism. Where he says "Confederation as an instrument of steam power has been compelled to face the implications of hydro-electric power and petroleum" (p. 247), he is providing the key to the whole inter-war problem of Canadian federalism. These are not merely expansive half-truths. The staple approach to economic history in a country whose history is almost entirely economic is an excellent tool of political analysis. For over a generation the understanding of Canadian politics was befogged by the monopoly of the study of political science by a school of

historians who knew no economics and who had been fatally stricken in youth by the apt but analytically unfruitful analogy between Canada in the eighteen-forties and England under the second of the Stuarts. What we know of the Canadian federal system is due almost entirely to the labours in the last twenty years of Professor Innis and his disciples in the field of economic history. The first major result was the balanced and sensitive account of Canadian development from Confederation to the end of the inter-war period contained in Book I of the *Report of the Royal Commission on Dominion-Provincial Relations*. This volume of essays yields a rich stream of seminal ideas to the political scientist.

Professor Innis reveals here also his preoccupation with the major problems of politics. When he says (p. 70) "We have most to lose from encroachments of power. 'Power is of its nature evil, whoever wields it.'", he shows a concern with politics which is common to many economists. This problem is a real one which requires hard and rigorous thinking. But too many economists, among them Professor Innis, take too simple a view. The economic theorist is impressed by the impersonal beauty of the price system. It achieves regulation and order without apparent use of compulsion or limitation of the free will. When the economist turns to politics, he is appalled at the imperfect and unstable competition of parties, at the extent to which the lack of homogeneity of ideas leads to a corruption of the market. Somehow, the group engaged in the maximization of power looks far more ominous than the individual firm engaged in the maximization of its returns.

In point of fact, political power is no more inherently evil than steam power. Each is capable of physical hurt in the wrong hands but both are constructive forces in human life. The economist forgets that a solid base of political power is necessary to enforce the rules of contract and protect the sanctity of property which underlie the free market. The economist is insufficiently aware that the growth of technology has produced the big business bureaucracy which rests on the same foundation of organizational principles as the bureaucracy of the state. The introduction of constitutionalism into the divine-right concepts of business organization is a problem of the first importance to economist and political scientist alike.

This is not to say that Professor Innis is unaware of this last problem. He examines it with deadly effect in his opening essay on the newspaper. But the economist's preoccupation with the market and the beauty of the price system have led him to state the issue not only incorrectly but in a form which can be exploited by the very commercial and political interests which, as he already points out, are exploiting the universities and the social scientist. He says (p. 75) "Business and political exploitation of universities by bribes reflects a complete inability to understand that universities honour donors and not donors universities. The impression that universities can be bought and sold, held by business men and fostered by university administrators trained in playing for the highest bid, is a reflection of the deterioration of western civilization."

Through these essays run certain common themes: a recognition of the relevance of economics to an understanding of politics and of culture, the tremendous pressure exerted on cultural survival by the multiplication of mass media of communication faster than they can safely be assimilated, the difficulty of objectivity in the face of the mechanical obstacles thrown up by modern technology. It is an attempt to suggest the cost to civilization of overspecialization.

A marked evolution in style is noticeable in this volume. The essays are not arranged chronologically in the order in which they were written but more sensibly by means of subject. The later chapters are on the whole the earlier in time. They are markedly less allusive, there is less of the mordant irony of the later essays. The later ones possess in places a lack of intelligibility, an almost sibylline character, which suggest the growing urgency with which these problems are pressing on the author. They reflect too, no doubt, the increasing strain which the war and postwar load of teaching and administration has thrown on senior scholars and reveal how much we may be paying in loss of leisure and loss of time to think things through. One wishes that we may be allowed again the product of systematic and sustained scholarship but we are lucky to have even the overtime reflections of such a distinguished scholar.

J. R. MALLORY

McGill University

Hawaii—A Century of Economic Change, 1778-1876. By THEODORE MORGAN. (Cambridge: Harvard Univ. Press. 1948. Pp. xi, 260. \$4.00.)

The need for an understanding of the culture of the Territory of Hawaii has become doubly important in view of the recent measures taken to grant it statehood. Professor Morgan has made a careful analysis of the evolution of the Hawaiian economy from the native feudalism which Captain Cook found in 1778 to an agricultural and commercial private enterprise system.

While Professor Morgan writes as an economist, he never loses sight of the highly important socio-economic aspects of the transformation in the period of Hawaiian economic history which he covers. He points out that the study of Hawaii is "an extreme case where the optimum rate of technical progress is far less than an 'economic' analysis only would recommend, for against the increase of real income is to be debited social costs of adjustment."

After a discussion of the original colonization, land division, tenure, reforms, and the breakdown of feudalism, the reader's attention is focused on the Reciprocity Treaty with the United States in 1876. There can be no doubt, according to Professor Morgan, that the interest of the United States in this treaty was primarily political. During a half century preceding the treaty, the Islands had considerable difficulty maintaining their independence amidst the maneuvering for commercial and political advantage of several nations. The treaty secured Hawaii against falling under the control of another power.

Economically, Hawaii gained free entry into the United States for a number of tropical products. The most important were sugar, molasses, and rice.

In exchange, Hawaii was to reciprocate by granting free admission to a number of American goods. The benefits to Hawaii from the Reciprocity Treaty, however, were dubious. The era after Reciprocity was one of great expansion. As was to be expected, plantation owners were encouraged to bring poorer land into cultivation, and cultivate more intensively land already in use by heavy applications of fertilizer and costly equipment. Hence, the bonus enabled planters to expand on a larger scale than would have been possible without a free market in the United States.

Against these advantages resulting from the Reciprocity Treaty were to be weighed the risk involved in making Hawaii dependent on a single crop, the tendency to concentrate control of the industry into a few hands, and the creation of new problems of social adjustment, particularly those arising from the growing heterogeneous population, a result of importing labor from other lands for work on the plantations.

Professor Morgan's timely study is an outstanding contribution. It should serve as a basic reference to those interested in understanding the economy of an area which is bound to become more important as the world economy becomes more interdependent. But perhaps what is more important is that this scholarly study gives a historical analysis of the transition of Hawaii from an underdeveloped economy having a relatively primitive marketing system to a sophisticated economy dominated by Western civilization. An understanding of this development should provide a worth-while frame of reference for dealing with similar problems in the underdeveloped countries whose people are becoming more conscious of their position in the world today.

The accelerated destruction of the indigenous social institutions of Hawaii provides an excellent example of the dangers of the sudden introduction of overwhelming alien institutions at the expense of the native culture. This poses the question of how to maintain the cohesive elements of the indigenous culture as new alien concepts are corroding the basic social pattern. The problem is one of maintaining a familiar cultural pattern in a viable condition until a new one can be sufficiently matured to take its place.

Fortunately, the invasion of the alien cultures upon the Hawaiian economy has been peaceful and without violent social upheaval. Hawaii's future is now bound to its plantation economy. The influence upon this economy of other alien ideologies plaguing the world (especially in the Orient) will be interesting to watch.

CHARLES D. HYSON

Harvard University

Balkan Village. By IRWIN SANDERS. (Lexington: University of Kentucky Press. 1949. Pp. 291. \$4.00.)

No economist who is interested in international economic policy or in the economics of "backward countries" could make a mistake in spending an evening or two in the leisurely reading of Irwin Sanders' *Balkan Village*. For this unpretentious little book has some profound insights to contribute to the understanding of the tide of events not only in the little village of Dragalevtsy but throughout the Balkans and with appropriate modifications

in China as well. It is based on a careful study of this Balkan village in the 'thirties and again in 1945.

Professor Sanders' book starts out in a personalized style, to present a picture of the socio-economic structure and life of a small rural village of Bulgaria in the 1930's. His style is in fact somewhat deceiving; for the work is a careful sociological study, free of the easy generalizations of the usual travelogue on the one hand and the pretentiously "scientific" work on the other.¹ One is struck continuously by the basic parallels between this Balkan peasant society and the Chinese peasant communities portrayed in such work as Martin Yang's study of a Shantung village and Fei's studies of villages in the south and southwest of China. The book would be worth reading on these grounds alone. Moreover, the chapters on the prewar period stand as the foundation on which the last chapters are built.

Nevertheless, what makes *Balkan Village* of particular interest to many of us must be the last three chapters of careful and objective analysis of the impact of the war and of communist influences in this peasant society. Even in the 'thirties the impact of nationalism with the increasing role of central authority in the village life was visible; but Professor Sanders represents this as still largely an external influence that was making only small impressions on the culture and mode of life. The people observed these developments as onlookers, accepting only what fitted into the traditional pattern of their lives. Such was no longer the case in 1945. The isolation from the culture of the "outside world" was already of the past.

How did the peasants react to the Germans, the Russians, the Americans and British in their midst? How did they react to communism as an ideology and a social system and how are these reactions changing? What are the cores of resistance and opposition to communism and do they tend progressively to weaken? What sort of alternative would be likely if communism does not ultimately dominate in full? What kinds of modification of communism are likely in view of the economic and cultural background of the people? What rôle does America play and what rôle might it play in the life of the peasant of a little village in the Balkans, or in the life of millions of peasant populations the world over? Professor Sanders is modest in his approach to these questions. But his work is notable for the objectivity with which he handles a subject so ridden with emotion everywhere. It is notable for the simple and yet profound insight into the underlying conditions and the nature of evolutionary (and revolutionary) developments. The more obviously analytical approach of the last part of the book rests firmly on the foundations of the earlier chapters and his conclusions flow directly from that background. No grand solution, no social blueprint is attempted. But the thoughtful reader will find much to give him pause.

MARY JEAN BOWMAN

University of California, Berkeley

¹ The appendixes take up 58 of the 278 pages and enhance the value of the book. Four of these are reprints of articles previously published. The remainder include data on the village population and their farms, an inventory of stock in a village grocery store, a note on taxes, and a note on methodology.

Economic Systems; Planning and Reform; Cooperation

Saving American Capitalism. Edited by SEYMOUR E. HARRIS. (New York: Alfred A. Knopf, 1948. Pp. xviii, 373. \$4.00 net; \$3.00 text.)

Reviewers of Seymour Harris' collections of essays always complain of being caught on the horns of an ugly dilemma: shall they dutifully make a brief and superficial comment about each essay, or generalize broadly about the whole volume, risking serious injustice to individual authors. In the present case there are thirty-eight separate essays averaging a little under ten pages apiece. To choose the horn of itemization would give me, in my 1800 words, approximately forty-seven words per essay, or about two sentences including mention of author and title. Accordingly, I shall seize the other horn pleading guilty in advance to charges of libel against individual contributors. The risk of misrepresenting a great many of the authors is reduced by the fact that fifteen of them are Mr. Harris himself, who sets the pace and tone for the remaining twenty-three.

He does this so successfully, partly by skillful editing and partly by writing nearly a third of the book himself, that the volume as a whole conveys a fairly clearly definable message. It is perhaps an inevitable consequence of the brevity of the individual pieces that the message is neither very novel nor very profound. It is the function of the book not to innovate but rather to summarize for the benefit of a popular audience a rather familiar approach to today's major problems of economic policy—that of the new New Deal. Essays by Chester Bowles, Adolf Berle, Charles Merriam, Leon Keyserling, O. H. Taylor, and Seymour Harris describe the basic philosophy of the "mixed" economy. True democracy is only attainable, so runs the theme, if government takes vigorous action to maintain employment, to insure an equitable distribution of income, to promote an active program of resource development, to provide ample social services, to enforce a "balance" in the wage-price-profit structure, and generally to plan. In so far as private enterprise and free markets are consistent with these essential governmental functions, they can and should be fostered and encouraged. But we must not let the shibboleth of minimum government blind us to more fundamental goals.

There is great virtue in reiterating, as do the essays of Richard Gilbert and Merle Fainsod, that private enterprise and government control are means and not ends and that the proper balance between them must be determined not on rigid *a priori* grounds but by the pragmatic test of effectiveness. It is highly plausible to argue that as long as private enterprise can be made to operate in the public interest it should be allowed to function, but that where it fails to do this, government must step in. But this really does not get us as far as it seems to. The argument merely travels one floor down to what constitutes the public interest.

On this plane the analysis of Mr. Harris and his co-authors is not as fundamental or penetrating as it might be. The desirability of full employment, resource development, equitable income distribution and the like is too obvious by now to need the reiteration it gets in this book. But all

economic and social systems promise these things. Why, then, should we want to save capitalism as these authors all say they do? There is very little consideration here of what it is about capitalism that makes it worth while trying to save in view of the fact that it would be technically much easier to solve some of our problems such as unemployment if we were to abandon "free enterprise."

The emphasis is perhaps explained by a comment of Mr. Bowles who says, "The most dangerous long range threat to our democratic institutions in America comes not from the inept Communists to the Left but from the reactionaries at the extreme Right" (p. 19). If we start from this premise, the first step in the argument must logically be the one taken in these essays of insisting that we can have full employment, stability, health, good houses for all, etc., without setting off down the Road to Serfdom.

There are undoubtedly a great many people who need to be persuaded of this. Even for this audience the plea would be more effective if it dealt more directly with some of the difficult problems we must solve if we are to pursue the New Deal Utopia within the framework of a genuinely democratic, not to say capitalist, society. Those of us who have long accepted the goals these authors describe would like to see more attention paid to how we might resolve some of the inherent conflicts among these goals.

For instance, the chapters on resource development by Morris Cooke, Carlton Nau, Morris Garnsey and Seymour Harris, those on housing and urban redevelopment by Charles Abrams and Guy Greer, and that on federal research by James Newman are eloquent statements of promising ways in which we can use our resources. But, for a book by economists, there is singularly little recognition here of the problem of choice in a society. How can the people of a community be made aware of the cost in opportunities foregone of all the wonderful things the authors would like to use resources for? How can their views be sought as to when more electric power and more apartment houses are no longer worth the automobiles and movie palaces they must give up to get them? What mechanism can we invent to insure that such decisions are really made by the people and not by bureaucrats and "experts"? There is no mention of this problem in the book.

It is certainly true, as many of these authors insist, that the private price system is not the effective machinery for making some of these decisions that the nineteenth-century economists hoped it was. Should we not, then, be giving a little more thought to the substitute? It is not enough to say that "the best available medical care should not be denied to any citizen" (Bowles, p. 27), or that "if health is worth having it is worth having now" (Berle, p. 55), or that "water and power resources should be developed to the full" (Nau, p. 122), or that we should exploit "every potential kilowatt of hydro-electric energy" in the West (Garnsey, p. 133), or that "large funds" should be made available for "redevelopment of in-town blighted areas" (Greer, p. 200). These needs should be called compellingly to public attention, as these essays do. But the Welfare State must, if it is to be democratic, find better solutions than quadrennial elections for the problem of how to make governmentally allocated resources satisfy the values of majority

and minority consumers and not merely those of contributors to a symposium.

It is probably true, as these authors frequently suggest, that high pressure salesmanship induces us today to spend too much on tobacco and too little on medical care, but there is a point beyond which we do not want to give up cigarettes for an extra pint of milk or a shade whiter teeth, and the Welfare State will neglect the search for that point at its peril.

The eat-your-cake-and-have-it-too implication of some of these essays is an understandable consequence of their preoccupation with both cyclical and secular deficiencies of effective demand. The opportunity cost of *any* use of resources appears to be zero or negative if the alternative is unemployment. "The combination of unemployed money and unemployed men to reclaim many regions like the Tennessee Valley is, we hope, assured" (Harris, p. 8). But of course the alternative need not be unemployment, but may be more houses, more clothes, or more pulp magazines. There is little suggestion in this book that this problem exists. It is no defense to point out that public investment can be highly productive and thus need not require any sacrifice in the long run. The same thing is true of private investment. There remains with both a real problem of how much consumption we will forego meanwhile.

One section of the book is devoted to essays by Alvin Hansen, Lorie Tarshis, George Soule, Lester Chandler, and Seymour Harris on why and how demand and employment must be stabilized. This, as might be expected from these authors, constitutes a very well stated primer of the theory of income and employment and its applications to fiscal and monetary policy, inflation, and the farm problem. Here again, my principal complaint is that it all sounds too simple. If Lincoln Steffens was right in insisting that the main function of education is to teach not what is known but what is still unknown, this would not be a fruitful text. In spite of Gilbert's generous admission that "we do not know everything yet," the book leaves the reader unaware, for instance, of the confusion in our theories of general wage and price movements or the inadequacy of current analysis of the relation between monetary policy and liquidity. There is no hint of our abysmal lack of empirical knowledge as to just what factors have an important effect on investment spending or our uncertainty as to how consumption is related to income.

Indeed, on this last point, many of these authors have no uncertainty at all. They take it as so firmly established a truth that redistribution in favor of low incomes (frequently identified with aggregate wages) will expand total spending that they do not have to explain, much less defend, this proposition. Bowles speaks as though everybody knew that maldistribution was responsible for the 1929 crash. Berle says of the fact-pursuing liberal that "He has a pretty clear idea that these evil times are somehow connected with the phenomenon of badly distributed national income; and he has learned that, in proportion as the standard of living of the lower income groups is raised, the violence of 'boom' and 'bust' is relieved." Harris relies on re-

distribution as a major element in stabilization policy, and Schlesinger and Gilbert both imply that making taxes steeply progressive will greatly increase consumption. Keyserling's concept of balance in the wage-price structure seems to refer principally to the notion that such balance is necessary to prevent oversaving.

The reputation of the "science" of economics is surely not enhanced by setting down propositions as untested as these as though they were among the axioms of our so-called discipline. In the first place, at least a reputable segment of the profession does not accept them; in the second place, there is some admittedly sketchy evidence that they are not quantitatively very important even if they are qualitatively correct; and thirdly, and most important, no really good or reliable evidence that could be said either to prove or disprove them has yet been published, so far as I know.

Many statistical studies of the consumption function appear to indicate that the marginal propensity to consume of individuals is fairly constant over a wide range of income. If this is so, redistribution between persons should not greatly affect total consumption expenditure. Shifts from corporate to private income are perhaps more likely to stimulate consumption, but in view of the importance of retained earnings as a source of funds for investment, such shifts may well depress investment by as much as they stimulate consumption. I am not saying that these possibilities are any more demonstrable than those the authors assert, but merely that our evidence as to the determinants of consumption expenditure is slight, unreliable, and conflicting. To take unverified hypotheses, stated as proven fact, as the basis for policy proposals is to be guilty of the kind of irresponsibility with which social scientists are always being charged. This is not an argument against income redistribution, which I incidentally happen to favor, but a plea that it be defended on somewhat more honest and scientifically reputable grounds.

The horn of the Harris Reviewer's Dilemma which I have seized has prevented me from saying much about the pieces in the volume which are less representative of its general flavor. These include a brief plea for more anti-trust enforcement by Berge, an excellent little piece on foreign economic relations by Lerner, balanced appraisals of the Taft-Hartley Act and the social security problem by Dunlop and Witte, respectively, and a very polished discussion of literature and liberalism by Howard Mumford Jones which makes the reviewer aware, by contrast, of how badly economists write. I do not feel as unhappy about my neglect of these essays as I might if they were longer and if their authors had therefore had an opportunity to develop a more meaty thesis. It is to be hoped that in the future Mr. Harris will check his tendency to collect larger and larger numbers of shorter and shorter essays into more and more frequent volumes, and that we shall be spared the logical climax of the present trend—a volume of aphorisms entitled "The Wisdom of Many, Many People."

MAX MILLIKAN

Massachusetts Institute of Technology

Business Fluctuations; Prices

Teoria e Politica della Piena Occupazione. By VITTORIO MARRAMA. (Rome: Università di Roma—Facoltà di Giurisprudenza, Istituto di Economia e Finanza. 1948. Pp. 302. L. 1200.)

Vittorio Marrama is known to American economists through his papers in *Economica* and *The Review of Economic Studies*. In the present book he confirms the impression of ability that readers of these articles will have formed, and reveals as well an extraordinary acquaintance with the literature of his subject. The object of the work is to present a critical reconstruction of full-employment theory and policy in the light of the principal developments in the Anglo-American, and in particular the British literature since 1935. Although the study is intended chiefly as a contribution to Italian thought, there is much in the book that will be of interest to American readers.

The work is divided into three parts. Part I, entitled "Equilibrium, Price Flexibility, and Full Employment," first deals with the conditions of full-employment equilibrium under static assumptions, with particular reference to the treatments of Pigou, Hicks, and Lange. The Wicksellian analysis is then introduced, and this is followed by a discussion of the instability of full-employment equilibrium under conditions of uncertainty. Hicks and Lange are again the major objects of attention, though the contributions of Marschak, Shackle, and Hart also come in for consideration.

Part II, called "Effective Demand and Full Employment," is composed of four chapters dealing successively with fundamentals of the Keynesian theory, economic maturity, the Ricardo Effect, and dynamic models of the Kalecki-Kaldor type.

Part III consists of three chapters on full-employment policy. The first of these is concerned with the problem of stabilization of effective demand, and surveys the efforts at national balance sheet construction that have been made in Britain and America. The other two chapters consider in detail the questions of means, consequences, and limits of a policy of full employment.

Four appendices to the study add considerably to its value. These are entitled respectively: "Inadequacies of the Traditional Theory of General Equilibrium," "Recent Developments of the Theory of Interest," "'Democratic' Planning in Great Britain," and "Reflections on the Problem of Employment in Italy."

The principal conclusions of the study proper are as follows (pp. 241-43):

1. The doctrine of full employment has ample justification from the theoretical point of view, but the economic policies implied by the doctrine involve many and serious difficulties.

2. Outside the English-speaking countries, the Anglo-Saxon doctrine of full employment is applicable only where similar economic structures exist. Otherwise, substantial qualifications must be admitted. In Italy, for example (Appendix IV), unemployment is due mainly to a fundamental shortage of capital, and what is wanted is increased productivity rather than a higher propensity to consume.

3. Whatever the structure of an economy may be, successful full-employ-

ment policy requires the fulfillment of certain general conditions. The State must be regarded as responsible for the maintenance of at least high-level employment; it must be possible to coordinate general economic activities consistently with this object; public finance must be susceptible of subordination to the larger end; and theoretical and statistical research must go forward, particularly with reference to national income and aggregate saving.

To anyone who reads Italian without great difficulty this book may be recommended. The non-specialist will find it an excellent survey of recent work on the subject. Virtually nothing that falls within the scope of the study has been overlooked, and the author displays a thorough mastery of his great mass of materials. For the specialist, there is food for thought in the numerous discerning judgments of the author that cannot be discussed in a brief review.

RICHARD V. CLEMENCE

Wellesley College

Les Crises de Reconversion et la Politique Economique d'Après-Guerre. By ALAIN BARRÈRE. (Paris: Librairie Marcel Rivière, 1947. Pp. 199. 230 fr.)

Professor Barrère, of the University of Toulouse, has divided his timely work into two main parts; the first deals with the theory of reconversion crises, and the second with policies relating thereto.

Although the author emphasizes the crisis stage, he is also briefly concerned with the other stages of a complete cycle from depression to recovery, boom, and crisis.

The first thesis of the book is that business cycle theory is inadequate to explain the economic disturbances which historically follow major wars. There is required, therefore, a special theory which, although not unrelated to business cycle theory, is endowed with peculiar characteristics which amply justify its separate existence.

Barrère's account of the cycle which follows modern wars can be briefly summarized. First there is a brief depression which is the result purely of technical difficulties encountered in demobilizing the war economy and re-converting it to peacetime uses. This period is both short-lived and mild, with rising prices and increasing retail sales and obviously little similarity to the depression phase of the normal business cycle.

There follows a period of rapid expansion, which begins as soon as industry is reconverted and able to produce consumer goods. The primary characteristics of this phase are the sudden release of pent-up demand for consumer goods (especially the durable variety) and rising prices. These events are the natural consequences of the war period, during which income was increased, consumption restrained, and money and credit supply greatly expanded. Production of consumer goods is unable at first to meet the accumulated demand, so that a rapid rise of prices ensues.

The author lays great stress on the point that the reconversion boom is led by the consumer-goods field, in contrast to the business cycle boom which is sparked by an increase in the demand for capital goods.

The crisis stage is brought on by the satiation of demand for durable consumer goods. An important role in this connection is attributed to the rising prices which, on the one hand dissipate liquid savings and lead to consumer resistance and, on the other hand, encourage speculation. Speculative demand, with the aid of easy credit, sustains the high-level production until it becomes apparent that consumer demand is declining, at which point speculative demand also falls off and depression ensues.

Both the expansion and contraction phases of the reconversion cycle are marked by their brevity and their intensity. With appropriate policies the integration of the reconversion cycle into the business cycle can be accomplished without great difficulty.

Examining the reconversion policies followed by the United States, England and France after both world wars, Barrère concludes that, in the case of the United States at least, the basic difficulty was the conflict between the desire quickly to remove wartime controls and return to noninterventionism and the desire to prevent a reconversion crisis. As a consequence of compromise between these objectives, only half-measures were taken, a severe depression occurred in 1920-1921 and, referring to the United States in 1946, a "depression appears inevitable sooner or later."

In general, Barrère appears to recommend the maintenance of necessary economic and monetary controls to prevent speculative price increases, and the adoption of anti-cyclic government investment programs.

Professor Barrère's book is of interest, not for the introduction of any important new ideas, either in the field of theory or practice, but because of its timeliness in reviewing the weaknesses of reconversion policies. Although he concluded in August, 1946 that a (reconversion) depression in the U.S. was sooner or later inevitable, in an appendix dated May, 1947, it is stated that the United States has succeeded in controlling "rather happily" the development of the boom. If Professor Barrère could add another appendix on this subject now, one wonders what his comments would be.

D. A. SNIDER

Miami University

Money and Banking; Short-Term Credit; Consumer Finance

Monetary Theory and Fiscal Policy. By ALVIN H. HANSEN. (New York: McGraw-Hill. 1949. Pp. ix, 236. Price \$3.00.)

The purpose of this book, which is "devoted mainly to the subject of money," is to supplement the standard texts on money and banking. It is one of the Economics Handbook Series, and, as the editor says, will be useful to teachers of courses in money and cycles. Of the fifteen chapters, the first six deal with the relation of money to income, and state the case for preferring the income theory to the quantity theory. (Rather too often the attack is directed against the discredited "crude" quantity theory.) The income approach is represented as involving analysis of cost and aggregate output as well as aggregate demand and income. This leads the author, in

four chapters, to consider the interrelationships between costs, wages, employment and prices, including a chapter each devoted to Keynes' theory of money and prices and to factors making for price "stability" over the past 150 years. The rôle of money in relation to fiscal policy is next discussed (Chaps. 11 and 12), followed by a treatment of the limitations of a stabilizing budget through built-in flexibility, and a brief for a managed compensatory fiscal policy in Chapter 13. Public and private expansion alike must be accomplished by an increase in the money supply, and it is argued (Chap. 14) that the latter cannot occur without an increase in the public debt. A final chapter is devoted to international monetary cooperation. Owing to extremely wide coverage in a short space, undergraduates (and even graduate students) are not always provided the background needed to appreciate fully what is being debated. The volume is much more a highly stimulating and provocative monograph than a handbook.

Granted the lack of stability in the relation between money and income, which implies that the banking system cannot count on increasing incomes by augmenting the money supply, expanding income nevertheless requires an increase in *M*. The long-run problem is to maintain the "amazingly stable" rate of increase of the past (pp. 4, 140-42) to correspond at least with the probable rise in real incomes (p. 194), taking into account the possibility of a continuance of the decline in income velocity characteristic of the last 150 years (brought about largely by the desire of the public to increase the proportion of income held in the form of money as real income rose.) This cannot be accomplished passively. A substantial rise in the public debt appears to be necessary, because (1) under our monetary system a rise in the money supply requires a rise in bank assets, (2) the experience of 1920-1947 casts doubt on the likelihood that private investments of banks will increase rapidly enough, and (3) savings institutions will not yield their government securities to the commercial banks.

The weak link in this chain seems to be the selection of 1920-1947 as a basis for predicting the future. Between depression and wartime controls over the power of the banks to lend, not much scope has been accorded the banks to perform an operation which during a good part of the time was not needed, and during much of the remainder was largely taken out of their hands. In any event, those "who talk glibly about a continued reduction in the public debt" (p. 196) might, in reply to Professor Hansen, advocate the replacement of a sufficient amount of maturing debt with a "tailored issue," available to the banks alone. This should not be an impossible institutional change. If it is answered that this deprives the savings institutions of earning assets, it may be pointed out that the problem then becomes not the technical one of an adequate money supply, but rather how to stimulate investment.

The importance attributed to the money supply in supporting the growth of real income opens up the problem of the achievement of the "right" amount of money. A survey of the alternatives is presented in Chapter II, which is the main link between the present volume and a standard text in

money and banking. It is made clear that an increase in the volume of money may not by itself increase income. In fact, causality runs in the opposite direction. (But at one point it is affirmed that income and the rate of interest "are mutually determined" by the quantity of money, the schedules of marginal efficiency and liquidity preference, and the consumption function [p. 81].) The "crude" quantity theory held that of an increase in M , none would be held idle (p. 57). It overlooked the effect of reductions in the interest rate on this willingness of businessmen to get along with smaller balances. But though the quantity theory ignored the relation of the interest rate to the demand for money, we are warned to guard against a too rigid adherence to the liquidity preference theory. Productivity and thrift "have very much to do with the rate of interest," though indirectly (p. 81).

It is worthy of note that Professor Hansen rejects the importance of the activation of idle money (and conversion of near money to money) both at the beginning of an upswing and during a period of inflation in the money supply. At the bottom of a depression, it is argued, income and planned saving are so low that bank financing is necessary whether recovery is proceeding by way of either public or private investment. A rapid recovery must ordinarily be financed out of new money. There are no excess savings in depression (p. 187); and if financed out of idle money, new investment will cause the rate of interest to rise "more or less," which will prevent the full leverage effect of increased investment. It would indeed appear reasonable that if a large volume of deposits is destroyed during a depression, these deposits will have to be restored during the subsequent recovery. But the analysis seems to give too much emphasis to the rôle of the money supply, and this owing to the importance and behavior ascribed to the interest rate. One would suppose that the interest-elasticities of the liquidity preference function and of the investment and consumption functions would be such during periods of much unemployment that (1) borrowing from idle balances would not raise the interest rate much, and (2) the dampening effect on investment and consumption of the rise that did take place would be small. The same objection applies to the author's treatment of the rôle of the money supply when price controls were abolished in 1946 (see below).

The income theory is next discussed with reference to the views of Tooke, Wicksell, Aftalion, and Keynes. This approach regards changes in aggregate demand as the initiating force, giving effect to changes in quantity of money by way of output, wages and prices (p. 118). By starting with income, the possibility of incorrect analysis arising out of variations in the relation between the volume of money and income is eliminated. Finally, the income theory is more revealing, in that by giving up the mechanical quantity approach, attention is directed to the reasons for investment decisions, and therefore to the reactions of costs and supply to changes in the size of the income flow. This analysis is carried out in Chapters 7 and 8, with particular reference to the possibility of undercapacity, sharply rising marginal cost curves, and abnormal profits, which, if diverted to wages, only raise demand curves and profits still more. The conclusion is reached that capacity does

tend to adjust itself to peak outputs. But if booms are lacking to absorb the labor force, this result can be accomplished by a full employment policy "on a basis such that people expect it to persist" (p. 113). It may be asked how far the government would have to go in guaranteeing full employment in order to make businessmen willing to *expand* plant and equipment. One other point should be brought out with respect to Professor Hansen's treatment of inflation at full employment. Labor is not regarded as a bottleneck (other inflationary forces being absent) because of the flexibility provided (among other factors) by the 4 to 5 per cent turnover associated with full employment (p. 113-14). But can full employment reduce substantially the assumed average of 5 weeks that it takes a worker to find a new job? Even if this could be counted upon, we should have to change our definition of full employment as this source of labor flexibility was tapped.

The discussion of wages and prices in Chapter 8 gives the author an opportunity to assert his view as to the proper point to break the income-expenditure circle. The result does not seem entirely satisfactory. "If an inflationary price movement is allowed to develop" (p. 115), efficiency wages will rise, and a new plateau will be established, around which the rest of the price structure revolves. But in the case given prices, not wages, rise first. Is it argued that an increase in the quantity of money *cannot* contribute to rising prices, including wages? Apparently not, for (p. 117, note 1) "The removal of price controls in July, 1946, among other factors, led to wage advances that have placed us on a new level of *labor cost* (author's italics) —the foundation for a new high plateau of prices." But why did this occur? Obviously because of the release of spending pressure generated in an earlier period of increased quantity of money (including near money) that pushed up *all* prices including wage rates. The direction of causation is that posited by the quantity theory, not the reverse. And unless wages are the only sticky prices (how about supported farm prices?) why not speak of a higher plateau of general prices, including wage rates?

Limitations of space prevent the detailed comment throughout that this book deserves. Having summarized in Chapter 9 the argument of Chapter 21 (The Theory of Prices) of the *General Theory*, the author goes on in Chapter 10 to consider the factors that may have been responsible for what he calls the reasonable stability of wholesale prices during the period 1800 to 1914. (In the same paragraph he states that prices fluctuated "considerably, and at times rather violently" [p. 143].) This "stability" is explained largely by the circumstance that entrepreneurs are under pressure to reduce costs. Thus profits rise. If part of the rise in profits is passed along in the form of price reductions, in a dynamic society, a greater amount will be spent than before for new products, which will be a reason for the reductions actually to be made. But against this secular decline in the prices of new products must be set the price rises in declining industries. For part of the profits will be passed on in the form of wage increases. This forces the less progressive industries to raise prices. "The balance of these forces tends to produce a fairly stable general level of prices" (p. 145). But what hap-

pens to sales when the stagnant industries raise prices? Many of these industries must in any event be making products that are gradually being superseded. There would not appear to be much significance, for a general price index, in the prices of the products of declining industries, or industries which encounter diminishing sales due to the rise in prices.

Though principally concerned with the rôle of money in economic fluctuations, Professor Hansen has something to say of the part played by fiscal policy. The latter is regarded as a much more effective and less dangerous method of control than is monetary policy. The enormous rise in federal expenditures and taxes since 1940 leads the author to ask for a reconsideration of the possibilities of anticyclical public investment. But he points out that the built-in flexibility of the stabilizing budget proposed by the Committee for Economic Development does not go far enough; large declines in income can occur with fixed expenditures and fixed tax rates, even if the tax system is steeply progressive. Our economy does not fluctuate mildly about a high level of employment. Economic activity proceeds by spurts of autonomous investment that are self-limiting, and compensatory action is necessary. To this end it is recommended that, within limits specified by Congress, the executive branch be given authority to offset fluctuations in income by adjusting income tax rates. Since this book undertakes to recommend actual policy, the question may be pertinently asked whether an executive responsible to the electorate can afford to assume this power in the absence of better means of recognizing changes in the direction of output and employment than are available at the present time.

KENYON E. POOLE

Northwestern University

Public Finance

Finansprocessen i det økonomiske kredsløb (The Fiscal Process in the Circular Flow). By JØRGEN GELTING. (Copenhagen: Forlaget for Viden-skabelig Litteratur. 1948. Pp. 304.)

In the Scandinavian economic literature much attention has in recent years been devoted to problems of fiscal policy. Best known in the Anglo-Saxon world are perhaps the works of Myrdal, Lindahl and Jørgen Pedersen. To this series of studies has now been added an interesting doctoral dissertation by Jørgen Gelting of the University of Copenhagen. Briefly the book can be characterized as an attempt, along Keynesian lines, to analyze the interplay between the public and the private sectors of the economy. Although the main emphasis is on the "circulation" effects, part of the study is devoted to an analysis of the "discriminatory" effects of individual taxes.

In the main theoretical chapter that has given the title to the book, Gelting undertakes a very penetrating and systematic analysis of the relationships between the fiscal process and the level and components of the national income. His key concepts are public "expenses" and "revenues" that are defined respectively as any public payments and receipts that the private sector considers as additions to or subtractions from their incomes. These

definitions present certain difficulties. In individual cases it is often difficult to draw a clear distinction between, say, those public expenditures that generate and those that do not generate incomes. It seems to be partly a question of the length of the period under investigation; in the long run most public expenditures might reasonably be expected to have some income-generating effect. A great many multiplier formulas are presented in the chapter; if all the variations of the basic models are included, we get close to one hundred multipliers, probably an all-time record in the literature. Most of the models are static, but he does include a few dynamic systems that are inspired by Kalecki. While many of the results are familiar to students in this field, other findings are not. Thus, his analysis of the balanced budget is in my opinion superior to the discussion that took place a few years ago in *Econometrica*. Gelting's own ideas in this field were, by the way, first developed in an article published in *Nationaløkonomisk Tidsskrift* in 1941.

To characterize his methods further, it should be pointed out that he relates the various propensities (or leakages) to money income rather than real income. This procedure is perhaps justified for direct and indirect taxes as well as for imports; it is a question though whether the propensity to save is not more closely correlated with real income. The material presented in the book is not conclusive on this point, and American investigations do not seem to confirm his assumptions. One final remark must be made about this part of the analysis: while most of his multipliers are basic or pure, there are a few instances of what Samuelson recently has called "pseudo-multipliers," i.e., income variations have been related not to changes in parameters but to resulting changes in other variables of the system.

The following chapters discuss the interaction between fiscal and monetary policy and also the special problems raised by relations with other countries. This last aspect is of course of obvious importance for a country like Denmark. There is a penetrating analysis of how to accomplish a given change in national income through different combinations of exchange rates, fiscal policy and interest rates, assuming the maintenance of a balance-of-payments equilibrium.

In my opinion, the book represents one of the most systematic and useful surveys in the field of fiscal policy. It is unfortunate that the language barrier will severely restrict the number of readers, and it is to be hoped that the author will publish some of his more important findings in English or American journals.

SVEND LAURSEN

Williams College

International Economics

ECONOMIC PUBLICATIONS OF THE UNITED NATIONS

The Secretariat of the United Nations has published several economic studies since it was organized in 1946, in addition to the considerably larger number of informal reports it has made and extensive assistance it has

rendered to various United Nations bodies, particularly the Economic and Social Council and its various commissions.

The present writing is designed to provide an indication of the nature of the principal economic publications of the Secretariat itself. Some of these publications represent continuations or completions of works undertaken by the League of Nations Secretariat, but most have been initiated by the United Nations. Reference is made to the periodic UN publication, *Directory of Economic and Statistical Projects*, a useful guide to UN economic studies completed and planned.¹

The first comprehensive economic report published by the United Nations Secretariat was *Salient Features of the World Economic Situation, 1945-47* (January, 1948). This report provided the basis for the Economic and Social Council's first annual discussion of the world economic situation, in February, 1948. The principal statements of the Council members were published in a *Supplement to the Economic Report* in March, 1948. Henceforth, it is anticipated that the major annual economic report will appear in the late spring, and be used by the Council principally in its summer session. One interim report on economic conditions, *Selected World Economic Indices*, was published in July, 1948, primarily for the seventh semi-annual session of the Economic and Social Council, and a second, *Major Economic Changes in 1948*, was published in January, 1949, just prior to the eighth session of the Council.

These general reports suffer from a deficiency of data for many parts of the world, from the haste with which they have had to be prepared, and from some uncertainty as to just what they should contain in the way of description, analysis or prescription. The availability of statistical and other information on the United States has caused the reports to give undue emphasis, at least superficially, to the United States as an element in the world economy. The table of contents of the first report, *Salient Features of the World Economic Situation, 1945-47*, gives a good indication of the nature of these reports: "The World's Supply of Commodities," "International Trade and Credits," "Production Bottle-necks," "Inflationary Pressures," "Regional Economic Conditions," "The World Food Situation," "The European Coal Situation," "The World Transport Situation," "World Manpower Problems," "Progress of Economic Development,"² and "International Action in the Economic Field."

Regional economic reports have been made or are in process by the parts of the UN Secretariat attached to the three existing regional economic commissions. Two notable reports have been produced by the Secretariat of the Economic Commission for Europe and first surveys are in preparation for the Economic Commission for Asia and the Far East and for the Economic Commission for Latin America. *A Survey of the Economic Situation and*

¹ The writer wishes to note the cooperation of the UN Department of Economic Affairs in the preparation of this review.

² This chapter was drawn largely from a Secretariat publication entitled *Economic Development in Selected Countries: Plans, Programmes and Agencies* (October, 1947).

Prospects of Europe, published in March, 1948, and *Economic Survey of Europe in 1948*, published in May, 1949, are by far the most distinguished UN economic publications thus far. They have been prepared under the general direction of Gunnar Myrdal, executive secretary of the ECE, by the staff of the Research and Planning Division, headed by Nicholas Kaldor and Hal B. Lary.

The March, 1948 report covered European production, trade, and balances of payments on a factual basis, and analyzed the major problems of inflation, intra-European trade, and production bottlenecks. Both this report and its May, 1949 counterpart were reproduced as Congressional committee documents because of their bearing on the European Recovery Program. The second report is even broader in scope, with chapters on "The Progress in Production," "The Progress Towards Internal Equilibrium," "The Rate of Capital Formation," "The General Pattern of Trade," "Prices in International Trade," "Balance of Payments and Trade with Overseas Countries," "Intra-European Trade and Payments," "The Progress in Planning," "Problems and Prospects." A magnificent array of tables is provided in this report. Special mention might be made of the two-way table on "The Network of Europe's Trade by Individual Countries."

Both of these ECE reports are extremely well written, contain extensive, well-organized material on the European economy, and reflect the high technical competence of the staff. They are indispensable reading for persons concerned with European economic problems. To admire the general excellence of these reports is not necessarily to agree with the policy conclusions, implied or expressed. For example, through both reports runs the theme that the responsibility for attaining balance-of-payments equilibrium by the various European countries rests largely with the United States. The gist of the argument is that if the United States is not going to take special pains to import European goods (or organize a triangular system to the same effect), and if the United States is not going to make capital (or grants) available on terms acceptable to the European countries, then any failure of the European countries to restore general currency convertibility and multilateral, nondiscriminatory trade will be the fault of the United States. "The only feasible alternative would be for the United States to plan ahead its long-term lending to the rest of the world in a manner that would generate a predictable and reasonably steady flow of dollars to the outside world and thus permit the restoration of international currency convertibility" (May, 1949 report, Chap. 9, p. 21a, preliminary edition). There may or may not be a good basis for an outflow of capital to Europe from the United States after the Marshall Plan period, but to use the possible lack of such an outflow, or its uncertainty, or its irregularity, as reason for maintaining strict currency and trade controls is tantamount to saying that these controls should be maintained and/or American aid continued for one reason if not for another. The reports contain many variations on this theme.

One other criticism might be mentioned. A surprisingly crude analysis is made in Chapter 9 of the May, 1949 report of the commodity composition

of Europe's trade in relation to that of the United States. A reality is attributed to the categories of commodities, "manufactured goods," "food," "raw materials," which leads the authors to the curious view that there cannot be two-way trade between two countries of commodities which happen to fall within one of these arbitrary categories. Carried to the extreme, this view would be that a country only buys commodities from abroad which it cannot make at all at home. It is rather shocking to find this pre-Ricardian view implicit in an otherwise highly sophisticated piece of economic writing. However, this is a minor blemish, when set against the excellent analysis of the Western European payments scheme and the terms of trade, to cite two examples on the plus side.

The remainder of this review is devoted to brief descriptions of other UN Secretariat publications of general interest to economists.

Survey of Current Inflationary and Deflationary Tendencies (Prepared by the Division of Economic Stability and Development of the United Nations Department of Economic Affairs [Lake Success, N.Y., Sept., 1947], 86 pages). This survey analyses for selected countries the problems of deficiency or excess in effective demand which may lead to unemployment or inflation. The survey considers that the factors which contributed to the high level of demand in the United States in the postwar period were (1) the high rate of consumption of durable goods, of business investment in plant and equipment and of residential construction, resulting on the one hand from pent-up demand and, on the other, from the improving supply position; (2) large net exports, resulting from urgent needs of foreign countries and financed in large part by loans granted by the United States government; and (3) the rise in inventories—which had been low in relation to shipments—to levels approximating the prewar relationships. The survey notes that some of these factors may decline in significance and the situation may be altered materially by important changes in governmental policy with respect to foreign loans and domestic taxation. In devastated Europe, the rate of public and private investment to meet reconstruction needs was higher in relation to national income than before the war. Postwar taxation and imports of capital from abroad left the portion of investment to be financed by saving at home at a higher level in relation to national income. However, a number of reasons contributed to the tendency to save less than before the war, including the lack of confidence in the value of money; the low volume of *per capita* consumption, especially of necessities; and the large pent-up demand in terms of liquid savings accumulated during the war. The scarcity of food and of coal, which hampered the production of consumer goods, was the main factor in determining the supply position. Some countries, such as the United Kingdom and Yugoslavia, attempted to combat inflation by a comprehensive system of controls and rationing; others, such as France, Italy, and Poland adopted partial controls only. During the war and postwar period, the underdeveloped countries of Latin America and Asia experienced a great increase in demand which led to inflationary pressure, because the supply, especially of agricultural goods, was relatively

inelastic. In India, the initial rise in demand during the war was due largely to an increase in government expenditure which was not financed by taxation; in Latin America, it resulted primarily from a large increase in exports which was not balanced by an increase in imports. Inflationary pressures continued in both these regions as a result of pent-up demand for investment and consumption goods, the large government deficit in many countries and, in Latin America, the high level of exports after the war.

Post-War Shortages of Food and Coal. (Prepared by the Division of Economic Stability and Development of the United Nations Department of Economic Affairs [Lake Success, N.Y., July, 1948], 37 pages.) This report is a statistical and economic analysis of postwar shortages of food and coal and their effects on the world economic situation. These basic shortages considerably impeded reconstruction and directly or indirectly were the main elements in the scarce supply of consumer goods and thus were responsible, to a great extent, for the strong inflationary tendencies prevailing in many countries. This study calculates the shortages in a specific sense: the food shortage is measured in relation to prewar standards of *per capita* consumption in terms of calories; the shortage of coal is measured in terms of the decline in consumption in relation to requirements for industrial production, transportation and domestic use on the basis of prewar standards. Practically all of Europe and Asia suffered a decline in *per capita* production and consumption of food in terms of calories and a deterioration in the quality of the diet. In 1946-47, the consumption deficiency, measured in calories *per capita*, amounted to about 18 per cent of the prewar level for the deficiency area (excluding China and the Union of Soviet Socialist Republics). World production and consumption of coal in 1947 was at about the 1937 level, but in Europe and Asia production was considerably below prewar levels, while United States production was about one-third higher than the prewar output. European coal output for 1947 (excluding the USSR) was 18 per cent below the 1937 level. Although exports of coal from Europe declined and imports to Europe increased, coal consumption fell by 12 per cent.

*Measurement of National Income and the Construction of Social Accounts.*³ (Report of the Sub-Committee on National Income Statistics of the League of Nations Committee of Statistical Experts [United Nations, Geneva, 1947], 116 pages.) This report contains Committee recommendations on methodology with respect to the measurement of national income and on table forms by which estimates for component items can be developed on a comparable basis for all countries. It includes a detailed appendix on the definition and measurement of the national income and related aggregates, such as national product, expenditure, capital formation, saving, balance of payments.

Note on Balance of Payments Statistics. (Report drawn up by the Sub-committee on Balance of Payment Statistics of the League of Nations Com-

³ Publication of this report and the next two listed was undertaken by the United Nations after approval of the Economic and Social Council, upon the recommendation of the UN Statistical Commission.

mittee of Statistical Experts [United Nations, Geneva, 1947], 26 pages.) The League of Nations drew up a classification of items entering into international balances of payments in the early 1920's. This classification, which was applied in the annual balance-of-payments volumes issued by the League up to the war, was found lacking in certain respects during the 1930's, and the question of preparing a new classification was referred to the League's Committee of Statistical Experts. The present publication summarized the findings of the experts, who continued their work during the war. Their proposal may be regarded as a forerunner of the *Balance of Payments Manual* issued in January, 1948 by the International Monetary Fund, which now is in charge of the international work in this field. The principal changes in the Fund's Manual can, in fact, be traced to the *Note on Balance of Payments Statistics* prepared under the direction of the League's experts.

Balances of Payments 1939-1945. (Prepared by the Secretariat of the League of Nations [United Nations, Geneva, 1948], 207 pages.) This study, largely completed by mid-1946, concludes the League's series of balance-of-payments reviews. It contains balance-of-payment estimates during the war years for each of 24 countries and, for certain countries, summary tables of their international accounts, from the early 1920's to 1945, inclusive. Authoritative information concerning outstanding international liabilities and assets of the countries is given when available. Explanatory information on the computation of the statistics is also presented.

Public Debt 1914-1946. (Prepared by the Fiscal Division of the United Nations Department of Economic Affairs from information provided by finance ministries [Lake Success, N.Y., 1948], 170 pages.) This study presents data, in tabular form, on the public debt of 52 countries from 1914 to 1946—and to 1947 for some 20 countries. It discusses in a general note major differences in the concept and definition of public debt. Two tables are included for each country, with a few exceptions. The first tables give summaries of the total and of the foreign and domestic debt (subdivided into long-term and short-term) since 1914. Information regarding debt service, showing interest and amortization payments separately on the domestic and foreign public debt, is also given. The tables contain data on price movements and exchange rates for reference purposes. The second series of tables presents the development of public debt since 1928, indicating the position of the most important loans or types of obligation outstanding and, whenever possible, their purpose, nominal rate of interest, date of issue and maturity.

Review of International Commodity Problems, 1948. (Prepared by the United Nations Interim Co-ordinating Committee for International Commodity Arrangements [Lake Success, N.Y., November, 1948], 42 pages.) This review examines current international commodity problems and the principles evolved from experience in dealing with them. It reports inter-governmental discussions in 1948 regarding a number of commodities, but calls attention to the fact that no formal agreement relating to any of them has yet come into force. The report reviews the work of international organi-

zations concerned with particular commodities. The Committee notes the increasing tendency to consider economic problems on a regional basis, but points out the global nature of most primary commodity problems. This review reports rapid recovery in the production of many commodities and, for some, the disappearance of world shortages. The general trend in 1948 has been a downward movement in the prices of agricultural products and an upward movement in the prices of industrial raw materials other than those of agricultural origin. Charts on the production and prices of such primary commodities as coffee, cotton, rice, rubber, sugar, tea, timber, tin, wheat and wool are presented.

JOSEPH D. COPPOCK

Washington, D.C.

Politics Among Nations. By HANS J. MORGENTHAU. (New York: Alfred A. Knopf. 1948. Pp. xv, 489, xix. Trade, \$5.50; text, \$4.25.)

The familiar problem of impending doom has given stimulus to many a writer in the years since the war. The atom bomb and the "superpowers" have loomed like mushroom clouds in the book reviews and in the publisher's advertisements.

A book which covers much of the ground of international relations in this present world, which adds meat to the discussion, and which brings logic and candor and thoroughness to many particular issues is surely to be welcomed. Hans Morgenthau has written such a book. In many respects it seems designed as a textbook, for it covers systematically a range of subjects that is quite commonly the content of a course. In some respects it reads more like an essay or a thesis, for it is organized and arranged with a sequence that transpires as consecutive argument. In some ways it reads like a series of lectures, for it is often fresh in the good sense, animated with the intrinsic interest of analysis and with a choice of facts that clinch, and of quotations that say something.

The argument is perfectly clear. The problem is to find the means for preserving peace among nations. The means that have been put forward, from the time of Grotius to the United Nations Charter are examined, and are found ineffective or fallacious. The remaining hope is diplomacy; and the book ends in a homily, in the classic style, on how to conduct diplomacy in such fashion as to preserve the peace. Unfortunately, there is, even in the book itself, all the material one needs to justify the rejection of diplomacy along with all the other rejected instruments.

What then? Peace must be made and kept, and peace among nations according to the classic concepts appears impossible. This is actually stated with considerable directness at page 262 and again at page 402 of the book. But scattered through the book, and treated *pianissimo*, there is the mention of many factors not known to the classic system. So far as these are not assimilated to the book, the book is incoherent. But in this very incoherence lies the possibility of alternatives. The book sticks in its argument to one category of factors, and stands as a *reductio ad absurdum*, a proof that no

solution lies within its ostensible method. Such a *reductio ad absurdum* is a noteworthy step, for it must always precede the discovery of a new approach.

The concept of power is given a prime place in the argument. This has a healthy effect, for it affords a consistent emphasis on a factor that is seldom treated as a uniform one in all times and conditions. It serves to fend off or to put in their proper places such other factors as ideology and law. The intrusion of power as a constant consideration in the argument serves like a mowing machine in what has too often been a weed patch of fallacies.

So, to this reviewer, the book is good and useful. There remain various features which make it less good and useful than it might be. Speaking perhaps only for one reader the book has many faults, and these will be discussed. Be it said first, that the faults are not intrinsic to the structure of the book. They give it, rather, the color of a draft that may yet be improved upon. They are not mortal sins, but they are sins of omission, or of under-emphasis, or of inconsistency, or of errors of fact. The book is good enough to deserve another edition someday, and its faults are therefore the more worthy of noting.

Several major factors receive what seems too narrow treatment, or outright neglect. These include sovereignty, economics, and ideologies. Sovereignty is taken by Morgenthau as necessarily indivisible. But it is so in the conclusion only because it was already so in the definition. The option remains, to redefine it, or to substitute another concept of authority. This option remains unexplored. Economics is discussed as an element in power. But it is not discussed as an element in general politics. An aspect of the state system that has always had less attention than it deserves, and which is hardly mentioned in this book, is the fact that every nation state has been a commonwealth, a political-economy, a free-trade area. In this way the state has been the condition in which the economy has grown, and the barrier that has stopped that growth. This relation of the state to economics, with changing technology and a rigid state, has produced the strains that lie behind the story of international relations. It throws light on what is happening to the nation state system and to politics among nations that could contribute much. Ideologies are treated in the book only as rationalizations and false fronts for national interest. The great ideologies are much more than that. The book itself notes that they are akin to the religious doctrines of an older age. It fails to note that such non-territorial loyalties are characteristic, throughout history, of those ages in which one territorial state system is passing and another is being born.

Among the points on which the book is inconsistent is the prospect of a world state. At page 402, the author rejects the idea that a world state can be established. And, at page 406, he flatly states that a world community must precede a world state, just as an American community preceded an American state. Yet, at page 301, he has previously stated that it is now possible for one power to conquer the world, and once conquered, to consolidate and maintain its power. Now one or the other is true or both in part only. As for the order in which a community and a state are established over any given area, it may be verbally true that an American community

preceded an American state. But the American community was an offshoot of the English, or British, community. And if one plunges back in history to Cromwell and the Tudors, and the Angevins, and the Saxon kings, it is apparent that an English state was built first and an English community or nation later and that a British state was built first, and a British community or nation later.

Of diplomacy, there are also scattered statements in the book that tend to undermine the conclusion. At page 50 he observes that diplomacy is the antithesis of democracy. If so, and if diplomacy is still to be held the only means to peace, the question is begged: What of democracy? The point is also made that diplomacy must be non-doctrinal, and elsewhere, that Communism is doctrinal. Is not diplomacy impossible then, short of a change in the character of the Soviet system? And what of the problem of administrative organization required for diplomacy today?

In discussing total war, the statement is made that one of the four ways in which war has become total is in respect of the "fraction of the population completely identified in its convictions and emotions with the conduct of the war." Yet, at page 103, there is a very lucid account of how large parts of French society were in opposition to the war at its beginning.

Aside from such contradictions between parts of the main argument and various side observations, there are some simple errors of fact and statement. These are superficial. The date of Foch's *Principles of War* should be 1903 rather than 1917. The quotation from Wotton on the rôle of an ambassador has been given in a word order that makes it clearer perhaps, but robs it of the play on words that gave it humor. The section on modern warfare beginning at page 292 is strewn with errors of fact or arithmetic, not serious in themselves, but also unnecessary to the point.

At only one point does the book mention the factor of professional or bureaucratic collaboration which may play an increasingly important rôle in world affairs. That is where it cites, at page 413, Mitrany's observations on the wartime Combined Boards. These are worthy of much more attention. The significant factor in such forms of international activity is the growing rôle of accepted knowledge that enters into them. It is observable that where definite knowledge, scientific knowledge, exists and covers a subject, a committee without internal command authority can arrive at a rigorous solution of a problem. In this sense the body of existing knowledge, and its degree of certainty, may be taken as one of the great determinants which shape the process and the outcome of any cooperative action among humans. We also know that the social sciences, whatever faults they may have, are very different from what they were a generation ago, and are changing rapidly. *Ipso facto* they are an important factor, a fundamental condition, affecting all processes of international collaboration today. The Office of European Economic Cooperation at Paris, and the Economic Commission for Europe at Geneva are both illustrations. Mannheim's observation that with the advance of knowledge politics would be displaced by administration was based on this relationship.

It is not intended here to suggest that professionalism can displace diplo-

macy as a Utopian remedy for the ills of the world. Nor is it intended that the abolition of sovereignty as an untouchable concept should be taken as a perfect salve. The refractory parts of the situation, and our refractory ideas, will need stronger solvents than any such details can provide. But the situation depends, in the opinion of many observers, on finding palliatives enough to extend the time until fundamental solutions can be found. If, for instance, one could cut out sovereignty as a fiction and recognize the rôle of professional knowledge, one at least reduces the burden of reliance that has to be carried in Morgenthau's argument by diplomacy alone.

All criticisms of this book lead back to the opinion that the book is good. Its faults are real faults, but they are the faults that accompany originality of conception and accomplishment. The task to which it is addressed is one that will occupy many hands for a long time. A new world system is in gestation. Its great describers, its Bodin or its Grotius or its Hobbes, have not yet appeared. *Politics Among Nations* is short of finality, but is a solid block from which to go on. That is more than can be said for many of the tracts now put forth.

GEORGE S. PETTEE

Washington, D.C.

Interim Report on the European Recovery Programme. (Paris: Organization for European Economic Co-operation. 1948. Pp. 195. 4s.)

This is a disturbing report, for two reasons. It shows the immensity of the obstacles to Western European economic recovery, and it shows how great are the difficulties which lie in the way of overcoming those obstacles by cooperative effort on the part of a large number of independent sovereign nations.

The entire Interim Report comprises three volumes, but the second, the separate national programmes of the members of O.E.E.C., and the third, the reports of the technical sub-committees, need not concern us here. They hang upon the first volume, the report of the Council. This is a well-written volume, made up of short, crisp, numbered paragraphs, easy to understand; and it is in this volume that the basic assumptions underlying all the minutiae of planning and forecasting are to be found. A single programme for Western Europe as an entity has yet to be arrived at; the Interim Report only puts together the separate national programmes. It is possible that, as a result of the central secretariat's enquiries into availability of supplies and similar matters, some steps towards greater realism have been made in some of the national programmes included. But the hardest lessons have still to be mastered.

The first-volume Report starts off with a goodly display of optimism, describing the common hypotheses of all the national programmes as being peace, a high level of world (and, in particular, United States) employment, and a high level of world trade. On this basis, the first half of the argument advances cheerfully enough, but then misgivings begin to assert themselves and, by the end of Chapter 4, a picture has been drawn startlingly different from that with which the Report ostensibly began.

The fundamental problem to be faced, as the Report states, is that the present Western European economy is of a shape which does not fit into the changed pattern of world activity. War has hastened the crisis and deepened it, but "even if there had been no world wars, the course of world development would sooner or later have forced a change in Western Europe's economic structure" (par. 27). This maladjustment shows itself most significantly in Western Europe's adverse balance of payments with the outside world (Western Europe was still paying for only half her imports at the end of 1948) and, in particular, with the United States. Where shall the adjustments be made?

The way which each of the several countries separately would choose, and on which the Report in fact starts out, is the way of further expansion of production along existing lines which, since Western Europe is already highly industrialized, implies for the most part, greater industrialization. This is very reasonable so far as each country individually is concerned. The determination to produce more is wholly admirable and, if greater production requires greater capital investment as in many instances it does, then we have the heartening spectacle of present comforts being firmly set aside for the sake of future stability. So, "the national recovery programmes submitted to the Organisation all have as their essential foundation estimates of production in the various fields of activity, and of the investment that will be necessary to achieve this volume of production" (par. 49). Gross national products in 1952-53 are planned on average to be 20 per cent above 1938 and 35 per cent above 1947. Industrial production, in aggregate now 5 per cent above the pre-war (1935-38) level if Western Germany is disregarded, is to be raised to 30 per cent above pre-war including Western Germany, with items like electricity, aluminum and fertilisers at least double and crude oil output no less than 480 per cent of pre-war. By contrast, agricultural production is planned to exceed the pre-war level by only 15 per cent, and while this implies a very big effort, since present levels are so low, it nevertheless does no more than keep pace with the increase in population.

Lack of availability in certain raw materials will put some check on these programmes. World shortages of timber and of some non-ferrous metals are almost certain and steel, coke, wool and fertilizers are also likely to hamper progress for a time. But the crucial limitations will be in finance: in getting the savings to finance the investment, and in selling the exports to pay for the imports.

The Report is strangely uninformative as to the total of capital investment involved. We are told only that the production programmes require an increase in output per man-hour of 15 per cent over the four years, that for at least 10 of the 19 territories within the Organisation this will involve putting into capital development (internally or in their dependent territories) close on or over 20 per cent of their gross national products, and that modernising existing equipment, expanding existing industries and starting more or less new industries are all involved. But the Report is quite emphatic as to the dangers, political as well as economic, in an investment programme of this size. Despite offsetting American aid and short-term lending by other

non-European suppliers, budget surpluses will be needed in many countries. The margin between private income and private expenditure will be large—dangerously large. “While small reductions of the customary levels of consumption may be accepted, large inroads into customary standards may evoke stronger resistance than can be sustained” (par. 352). It can be argued, of course, and rightly, that “customary standards” are irrelevant, that Western Europe is in no position to support them and that only by heavily foregoing current consumption can their eventual restoration be secured. The fact remains that they can be and very likely will be the dominating factor. Recovery can as easily be upset by political and industrial unrest as by insufficient equipment—more easily. Whilst not denying that the sinking of a large amount of new capital is essential, therefore, one must insist upon two points: first, that the investment should be the minimum necessary to achieve stability (the Report itself finds too much planned for oil-refining and textiles), and secondly, that the amount which can safely be undertaken must be closely correlated with the amount of aid from overseas.

But, given that the practicable rate of new investment must determine the *pace* of expansion, upon *what lines* ought expansion to proceed? Here one can say quite plainly, and with the backing of the Report, that the expansion programmes put forward by the individual countries are not capable of rendering Western Europe “viable,” either in 1952-53 or in any year near thereto.

For the industrial targets to be achieved as they stand, imports will be needed, despite import-substitution, in as great a quantity (99 per cent) as before the war. In fact, most countries are planning to import substantially more in 1952-53 than in 1938 (Italy 37 per cent more) and only the heavy cuts by the largest importer, the United Kingdom (22 per cent less), keeps down the average. The cooperating countries, for purposes of the Report, assumed terms of trade 10 per cent worse than in 1938. On this assumption, the import programmes will require 20 per cent more exports than in 1938 and, because of reduced investment income, visible exports no less than 33 per cent more. Of this enlarged volume of exports, it is proposed to make 40 per cent metal and engineering products and 17 per cent textiles.

The Report does not actually say that this is quite impracticable. Formally, it allows that it might be done. But it declares emphatically that results will fall far short of such hopes (20 per cent short) unless there is “a radical change” in the policies of the participating countries, and it warns that, even if the effort to sell exports on this scale is made and succeeds, the payments will not be balanced, because deterioration in the terms of trade would be an inevitable accompaniment. The strongest part of the indictment, however, comes in the numerous observations on the subject which are scattered about the Report. Two only can be quoted here, but these are sufficient to show plainly the mind of the draftsmen of the Report. “It is unlikely that Western Europe can approach its export target without both a large increase in the total world market for manufactures and an increase in the share provided by Western European exports” (par. 187). “The world import market for

manufactures has hardly expanded at all during the last thirty-five years" (par. 243).

What course, then, should be followed? The Report speaks of a "re-orientation of Western European industry" (par. 328). It is not enough, it is argued, just to press forward with exports more vigorously than hitherto. Investments in schemes involving high imports must be curtailed, and—the crucial proposition—"far-reaching plans" must be laid to economise in imported goods.

Disappointingly, though not surprisingly, the Report does not go into details. This is only an interim report, and that work has yet to be done. It is not possible, therefore, to comment upon the economic significance which such a turn would involve. The trend, obviously, is towards more agriculture rather than more industry; but to what extent? Merely marginal adjustments or a wholesale switchover? Mainly in the dependent territories or mainly within Western Europe itself? "Re-orientation" is a strong word, and if changes are to be large, they are likely to have serious implications for the standard of living of Western Europe—implications, for example, regarding the optimum size of population—which have not so far been discussed.

It is certainly clear from the Report that the changes required in plans are on a substantial scale. This alone is a serious matter. Rightly, no doubt, the United States has laid upon the European countries themselves the task of drawing up the plans for their economic recovery and, further, of judging among themselves how they should recommend the division of American aid. The strain which this involves, on both O.E.E.C. secretariat and the governments concerned, must not be underestimated. Western Europe is not a sovereign entity but a group of 19 territories, all of which (except Trieste and, in some degree, Western Germany) are independent of each other, and most of which have heavy political problems which narrowly limit their field of action. For these, a policy of expansion along existing lines, besides being the easiest to imagine and to set figures to, is also politically the most attractive. "Re-orientation," however mild, is bound to disappoint many expectations. It will be challenged by many group interests and political dissension could be gathered against it very easily.

National economic planning is, in practice, neither so logical nor so overpowering as to disregard these facts. Individual countries are not likely to be eager to change their plans. At the same time, the central secretariat of O.E.E.C. is in no strong position to impose its views. It is true that Western Europe as a whole must fail to reach solvency if all countries persist in following the courses upon which they have started. Nevertheless, *some* countries might succeed, and each may think it has a chance. The central secretariat cannot allocate success and failure in advance. Its "planning" role must principally be that of honest broker in some very hard bargains. Whether bargaining is, in fact, possible and whether a sensible result will come out of it remains for the next Report on Economic Co-operation to show.

R. C. TRESS

London School of Economics

Readings in the Theory of International Trade. Selected by a Committee of the American Economic Association. (Philadelphia: Blakiston. 1949. Pp. xiv, 637. \$4.50.)

This is the fourth volume in the Blakiston Series of Republished Articles in Economics. The American Economic Association has in this case delegated the responsibility for the selection of essays to a committee with Howard S. Ellis and Lloyd A. Metzler serving as co-chairmen. The present volume includes, in addition to an introduction written by the co-chairmen, twenty-three articles on the *theory* of international trade. Empirical studies have not been included in this collection; the valuable bibliography appended to the text does, however, cover the entire subject matter customarily regarded as international economics. To indicate the general scope of the volume, it might perhaps be appropriate to list the sections into which the articles have been classified: Equilibrium of the Balance of Payments, Foreign Exchange Rates, Theory of Income Transfers and Reparations, Business Cycles and International Trade, Price Theory and International Trade, Tariffs and the Gains from Trade, Other Aspects of Commerical Policy, International Investment and the Balance of Payments, and the Future of World Trade.

As far as the selection of articles is concerned, it is, in the reviewer's opinion, excellent. However, every reader of the volume will undoubtedly have his own pet ideas with respect to unfortunate omissions. On this reviewer's own list are one or both of the articles by A. P. Lerner on the diagrammatical representation of cost and demand conditions in international trade.

A detailed appraisal of the collection is not easy. The scope is so wide and the variations in methodology and degree of abstractness so great that meaningful generalizations are difficult to make. Instead, a few observations on recent development in the theory of international trade, as reflected in the present volume, might be appropriate.

The most important impression one gets from reading this book is how significant the interwar changes have been in this field. The reasons for these changes are easy to ascertain. In the first place, they are related to the great instability in the national economies since World War I and the concomitant instability in the field of foreign economic relations. The first sections of the book clearly show the effects that actual events have had on the development of the theory. To mention a few examples, the difficult concept of international equilibrium has been subjected to detailed analysis by Nurkse. Similarly, the lack of stability in the foreign exchange markets has led to a series of studies culminating in Joan Robinson's essay. The German reparations problem gave rise to the famous Keynes-Ohlin controversy, reprinted here, which has added to our understanding of the balance-of-payments mechanism. This controversy can be reread with benefit by students of postwar economic problems.

While actual events have played an important role in the development of a new body of thought, theoretical innovations have also been associated

with advances in other branches of economics. To quote from the Introduction: "The new developments in price theory, as well as those arising out of the theory of employment, were quickly applied to the special problems of international economics, and many of the articles and essays reprinted in the present volume reflect the influence of one or both of these changes." It should perhaps be added that the causation has also run the other way, *i.e.*, innovations in the field of international economics have in turn stimulated development in other fields of economics. Scitovszky's article on the theory of tariffs may be mentioned as an example. This is, of course, an old phenomenon as any student of the history of economic thought is well aware.

The new theory of employment has led to a better understanding of the equilibrating mechanism in case of balance-of-payments disturbances. Metzler's articles on the transfer problem and Salant's on the foreign trade multiplier and the business cycle are good illustrations of the usefulness of some of the new theoretical tools. Polak's excellent essay on international investment also makes use of the multiplier analysis.

The influence of modern price theory on the pure theory of international trade is less spectacular. To quote again from the Introduction: "The pure theory of international trade was sorely in need of improvements which would bring it abreast of modern price theory. It is surprising, nevertheless, to find that the improvements in international price theory, when they were finally made during the inter-war years, affected the basic conclusions derived from classical theory only to a moderate extent." Unsolved questions still remain in this field. Both Leontief and Scitovszky use community indifference curves, the theoretical validity of which has been questioned by some economists. Samuelson, on the other hand, has been able to dispense with this device in his treatment of the problems of gains from trade, but his article does not make it clear whether his method has more general applicability. The theory of production and distribution has also found useful application in the field of international trade as witnessed by the remarkable paper by Heckscher, originally published in Swedish in 1919, and the recent article on the same subject by Stolper and Samuelson.

The articles mentioned above are by no means the only ones that deserve attention. They have been singled out for two reasons: to indicate the scope of the volume and to emphasize certain trends. In the reviewer's opinion, the economic profession can derive a certain satisfaction from the anthology. It gives evidence of rapid and sometimes striking advance in this branch of our science. Yet important problems remain to be solved. For example, the implications of increased government participation in foreign trade have not yet been fully explored. At least a significant beginning has been made in the articles by Viner and Mikesell. Perhaps most important, further progress may come with a bridging of the gap between the monetary and the so-called pure theory (comparative cost) aspects of international economics. It is likely that an integration somewhat similar to that which has resulted in the modern theory of employment will increase our knowledge and understanding of the subject.

Finally, this collection has, as did its predecessors, obvious merits for teaching purposes. This advantage is particularly great since many of the recent innovations in this field have not yet been embodied in textbooks. Especially if read in connection with Lloyd A. Metzler's admirable article, "The Theory of International Trade," in *A Survey of Contemporary Economics*, it will give the non-specialist an opportunity to keep abreast in this branch of economics.

SVEND LAURSEN

Williams College

World in Transition. By G. D. H. COLE. (New York: Oxford University Press, 1949. Pp. xix, 646. \$6.00.)

World in Transition is an outstanding book in more ways than one. The very scope of its subject is extraordinary, for Professor Cole has sought to describe the important economic, social and political happenings of the last decade, not in a single country, but throughout the world. There are chapters on everything and everywhere, with a special chapter on "The Right to Work," on "Europe, America, and the World," on "Trusteeship, the Color Bar, and the Colonial Problem" on "Morals and Politics and Democracy," and on twenty-four other assorted topics. The style is breezy but the pace is hot. A rough but fair caricature of the skills which Professor Cole brings to his typewriter is to describe them as partly reminiscent of qualities more familiarly displayed by John Gunther, Lancelot Hogben, and Stuart Chase.

The main defect of the book—paradoxical as it may seem—stems from the author's very virtues. Professor Cole is a moral man. He believes passionately in the brotherhood of man and in a universal obligation to further the material well-being and human dignity of this world's inhabitants. For many years Professor Cole has vigorously sought these goals through the British Labor Party, the Fabian Society, and the publication of many articles and books. In the past his writings have often been directed towards persuading as well as informing and this latest work is in keeping with tradition. Some people, who hold opposite views from those of Professor Cole, would describe parts of the book as propaganda; others, who believe as its author does, would call them educational.

Certainly *World in Transition* is not written in an impartial vein. It contains many flat statements on doubtful matters. The following two quotations, while selected for their possible interest to American readers, are typical. First,

. . . today few economists would deny that the State can and should accept responsibility for maintaining employment at a satisfactory level. . . . There are no doubt still a few professional economists, . . . who cling to the notions of laissez-faire . . . ; but, except perhaps in the United States, where the old errors persist, these reactionaries have lost their title to orthodoxy and have taken to giving themselves the air of men ready to die in the last ditch for the grand old cause of property rights (p. 13).

Second,

. . . so much hostility has been shown in the United States to all forms of public control over private business that other countries must be on their guard. Nothing can be more certain than that America, if it does finally scrap all the controls and return to the unfettered rule of big business, will be back in a jiffy at the old speculative game, with consequences even more disastrous for the rest of the world than for the American people. . . .

This is not to say that, in the absence of disturbing forces from the United States, capitalist enterprise elsewhere would proceed on an even keel. The American economy merely reproduces in a more exaggerated form the tendencies to instability which are everywhere inherent in the system of profit-seeking investment (p. 386).

If it is objected that such assertions are outrageously subjective, one should remember that the author's emotions do help to render the otherwise ponderous material both lively and readable.

Moreover, Professor Cole does not pretend to be writing detachedly for scientific economists. He is a professor of social and political theory at Oxford and the title of this considerable position is probably significant. In view of these wider concerns of the author, it is difficult to review this work for economists except in a similarly subjective manner.

In all probability *World in Transition* accomplishes what its author desired and attempted. It throws a light of decency and common sense on more than one dark spot in our troubled world. It contains a great deal of up-to-date information. What is more, the when's and how's and where's presented the reader are significant facts; most of the statistical dross which has a way of sifting into all books of this kind has been satisfactorily excluded. A lesser author would certainly have needed more than 300,000 words and a 35-ounce book to do this subject justice.

The writing of such a book, one which is not only global but contemporary in its coverage, must be a tremendous task. In the Preface it is stated that the entire work has been rewritten at least twice, and parts of it half a dozen times, in order to keep the material up-to-date. One stands in awe, not only of Professor Cole, but also of Rosamund Broadley, his secretary.

Finally, the British edition of this book was entitled *The Intelligent Man's Guide to the Post War World*, and in many ways this other title aptly posed a dilemma and its solution. Professor Cole knows his terrain, would like to be a guide, but occasionally leads off to the left. However, does this matter, when The Intelligent Man can always refuse to follow?

STEPHEN ENKE

*University of California,
Los Angeles*

The United States and Foreign Investment Problems. By CLEONA LEWIS. (Washington: The Brookings Institution. 1948. Pp. xviii, 359. \$4.00.)

The economist deals in theory, realistic generalization, and policy—one at a time or in appropriate combination. This volume, a companion to Miss

Lewis' earlier *America's Stake in International Investment*, is little concerned with theory but it has things of some importance to say under the other two headings.

Theory is touched upon in the early pages but the theoretical implications of the subject are not developed. Miss Lewis starts with the statement that foreign investment is the payment abroad of some part of the national income of the investor country, but the income approach is not carried beyond this initial statement. The outpayment, we are told, must be translated into the export of goods and services, but no further attention is given to the problem of transfer.

Realistic generalization is at the center of Miss Lewis's interest and her contribution in this field is much broader than the title of her volume would lead one to expect. In fact she undertakes a general estimate and review of international investments from the late 'thirties to the present time. To appreciate the inclusiveness of her task the reader should turn first to Appendix A where he will find a careful estimate, as of 1938, of the international long-term "investments" and "obligations" of practically every country in the world. In Part I of the text this review is brought down to 1947 in so far as available information permits, but the foundation of the whole exposition is in Appendix A. In this appendix the investment relation of every country with every other country is presented. Form and use are given attention. The creditor or debtor status is set forth for individual countries and for regions or areas. Much solid work has gone into this survey for 1938. It was necessary to bring a stubborn and perplexing assortment of facts into an orderly and consistent statement. Miss Lewis has done this and her work will be used by every student of the subject.

A general survey of this sort no matter how much work may have been put upon it, seems unsatisfactory when it has been brought into final form because it cannot be complete and because realistic study raises more questions than can be answered without further study. I propose to turn away from any effort at detailed criticism and to put forward a few of the general questions suggested by the survey.

International investment was presented in the opening pages as unilateral outpayment from the investor country. Such a statement emphasizes the flow of funds and the investment of goods; and a flow or movement must be measured over a period of time. But Miss Lewis did not, in making her survey, attempt to measure a flow. She undertook to arrive at a valuation of holdings—to use a convenient term—at an instant in time. Two concepts of investment are involved here. The contrast is between the process of unilateral payment, on the one hand, and the valuation of an inventory of holdings, on the other. Why, it may be asked, has theoretical analysis emphasized the process, and realistic study the inventory?

A further and closely related question may be raised. The contrast between the two concepts of investment seems to be significant when it comes to the judgment of capacity which Miss Lewis deals with from the point of view of the United States in her second chapter. Is the world's capacity to

bring about international investment to be judged by the facts related to payment? Consider the \$60 billion of unilateral outpayment from the United State since 1939 (p. 30). Or is capacity to be judged by the possibility of bringing into existence holdings which the receiving country expects to be able to service? Consider the net increase in the foreign holdings of the United States since 1939 which Miss Lewis puts at \$12.4 billion (p. 35). Is it capacity to pay or capacity to receive that counts?

Another general problem concerns the place of short-term investments in a survey of international holdings. Miss Lewis leaves short-term investments out of her review for 1938 and it seems quite reasonable to do so. To include them would no doubt have disturbed the long-run investment picture. But she brings in short-term investments when she undertakes the exposition of the course of events since 1938. She deals neatly with the British case and reaches the conclusion that by 1947 British long-term net holdings of about \$9 billion were completely offset by British net short-term liabilities (p. 63). By the same method the conclusion is reached that the United States emerged from the war a net debtor in the amount of about a billion dollars. Such conclusions are significant when the net position of a country is the important matter, but this is by no means always the case. They do not touch such matters as the ownership of the world's oil wells or the railway development of the world.

Is it not preoccupation with "netness" which brings short-term investments into the long-term investment picture, and may not this preoccupation cause other aspects of long-term investments to be overlooked? The usefulness of a highway is not to be judged by the net movement of vehicles in one direction or the other.

Miss Lewis's survey is followed by an account of the part which foreign capital has played in the development of the world's resources. This, in turn, serves to introduce problems of policy to which much of Part II and the whole of Part III are devoted.

Policy in investment-receiving countries is examined with appropriate emphasis on the unhappy progress of the world from default to expropriation. Attention is given to governments as investors with fresh information on direct investments by governments and a valuable discussion of policy. War and Communism have made this a problem of growing importance.

American policy from the beginning of World War II to the operations under ECA is presented in some detail. Miss Lewis reports without much comment the steps by which American loans have become, in Senator Vandenburg's phrase, "integral factors in our foreign policy." Efforts to deal with policy, however, toward new private investment are overshadowed by the persistent importance of the activities of the United States government. One is driven to the conclusion that Miss Lewis finds the chief hope for economic development by means of private investment in the establishment of a "generally acceptable code and court."

Her final chapters are upon the various proposals for an investment code. She gives attention to two efforts. The first is in the charter of the proposed

International Trade Organization. This she is inclined to regard as unsatisfactory (pp. 264, 265). The second is in the economic agreement at Bogota which, if it is ratified, will in her opinion constitute "a very real step" toward a satisfactory code.

CARL REMER

University of Michigan

European Recovery Program—A Report on Recovery Progress and United States Aid. By The Economic Cooperation Administration. (Washington: Supt. Docs. 1949. Pp. ii, 267.)

This document was produced by ECA as the focus of its presentation to the 81st Congress in support of its request for a renewal of its authorizing legislation and a new appropriation. It is designed for reference, rather than consecutive reading, and doubtless served a function in the congressional hearings in enabling the witnesses testifying for the executive branch of the government to answer many questions put to them through citation of explicit material.

While the encyclopedic character of the document and its compression make it easier to thumb through than to read systematically, it contains much of interest. Attention is called to the discussion of local-currency counterpart funds (pp. 157 ff.) where the action taken in each country is reviewed. It would appear that control over these funds has proved neither a means whereby the United States can dominate the European country nor a very effective support for fiscal orthodoxy. The section on exchange rates (pp. 188 ff.) is confined to a few pious platitudes which skirt the core of this controversial matter. This is probably unavoidable in a document of this sort. Some other controversial issues like the 50-50 rule on division of grant-cargoes between American and foreign bottoms are treated thoroughly; others like the pricing problem in oil, which was subsequently treated fully in the Hearings before the Committee on Foreign Affairs, are referred to only in passing.

An important by-product of the European Recovery Program for the profession has been the mass of information, current, historical and prospective, on the economic affairs of Europe. On occasions, one is tempted to believe that the point of diminishing returns has been reached. While the present document lacks the broad appeal of the OEEC Interim Report on the four-year program, it falls well within the compass of material for study and reference.

C. P. KINDLEBERGER

Massachusetts Institute of Technology

La Fortune Américaine et son Destin. By JEAN PIEL. (Paris: Editions de Minuit. 1948. Pp. 228.)

This book is important in showing how an intelligent, well-informed and somewhat cynical European looks at American economic policy and particularly the Marshall Plan. The first half of the book deals with the "secret" of American prosperity, which the author finds in our great natural resources,

in the glorification of work—a contribution of Calvinist theology—and in the spirit of enterprise, a contribution of immigrants from Europe. Having explained the growth of economic power, he turns to the vital question for Europe, “What will America do with it?”

The United States, according to M. Piel, is a mature economy perpetually menaced by overproduction. Rearmament and wars afford only temporary relief. One avenue of escape is government intervention, economic planning. But if the free-enterprise system is to be preserved, foreign outlets must be provided. The United States has great export capacity, but other countries lack means of payment. Investment of American capital abroad is only a short-run remedy, unless it takes place on an ever-increasing scale so as to compensate for amortization, the return of interest and dividends. This is impracticable, for “the new capital annually necessary would exceed the total savings of the country.” The only alternative, if capitalism is to survive, is to give away American wealth to foreign countries, on a massive scale, as a permanent feature of American policy.

The Marshall Plan is thus explained as a necessary step to preserve American capitalism. This argument would not have swayed American Congressmen of an isolationist stripe, hence more and more openly the Plan was presented to Congress and to the American public as a means of fighting the Soviets and “a necessary means of limiting their expansion.”

All of the foregoing corresponds rather closely with standard Communist arguments. Yet neither the author nor his publishers identifies him with the Party. Furthermore, in speculating on the future he does not adopt the Russian thesis of the inevitable collapse of American capitalism. An acute crisis may impend which will profoundly change it, but he sees a decreasing possibility of a socialist regime.

The author's economic determinism prevents him from recognizing the strength of ideas and ideals behind our participation in European affairs, and to European readers the book will give a false impression of the motivation of American policy. For political and humanitarian reasons we are attempting to stop the spread of Communism; economics is the means, not the end, as M. Piel maintains. For Americans the book is instructive in showing the need for clarifying our intentions and for dispelling suspicion on the part of Europeans that our continued aid may carry with it undesired control of their affairs.

PERCY W. BIDWELL

New York, N.Y.

The Most-Favored-Nation Clause: An Analysis with Particular Reference to Recent Treaty Practice and Tariffs. By RICHARD C. SNYDER. (New York: King's Crown Press. 1948. Pp. xi, 264. \$2.75.)

A number of books on the most-favored-nation clause are available in foreign languages, particularly French, but Professor Snyder's book is the most complete one to appear in the English language. He opens his discussion with three preliminary chapters devoted to the nature of the most-favored-

nation clause itself. Following this he presents a definition, classification, and analysis of the various forms of the clause. The book is concluded with an analysis of the limitations and exceptions to the clause and finally with an evaluation and criticism of the clause.

In his preface, the author tells us that he has made an attempt to synthesize the outstanding secondary materials concerning the most-favored-nation clause. Although he has done this with considerable skill, and although one must be grateful for the thorough manner in which he has reviewed the secondary sources available only in French, a perusal of the book will convince one that the author's statement is too modest. One of the most valuable parts of the book is based on a most painstaking analysis of the texts of hundreds of treaties. This study of texts has enabled the author to prepare a much more satisfactory classification of the various forms of the clause than has been available previously. It has also added a richness of interpretation to the analytical parts of the study. In this connection copious documentation adds to the usefulness of the book for further reference.

The author's training lies in the field of political science. A large part, therefore, of the material in the book concerns the legal aspects of the most-favored-nation clause rather than the purely economic aspects. The student of economics, however, cannot afford to neglect the political and legal implications of the various interpretations of the clause, nor will he overlook the important contributions made by the author to the study of the economic significance of the clause.

Issue may be taken with certain of the statements made in the sections of the book dealing with the economic aspects of the most-favored-nation clause. Not all students will agree that "So far as the principle of equality of treatment is concerned, a high but uniform tariff diverts trade to a lesser degree than low but discriminatory tariff" (p. 198). This statement is essentially the same as the argument frequently advanced in the United States during the early 1930's when invidious comparisons were drawn between the American and the British tariff structures. The American tariff was high, but for the most part uniform. The British tariff was low, but after the Ottawa Agreements of 1932 discriminated sharply in favor of Canada and against the United States. Americans frequently argued that the British tariff was the more serious.

Two observations are in order. In the first place, the statement concerning the extent of trade diversion is meaningless unless we know how "high" or "low" the tariffs are in relation to cost of production differentials in the countries concerned. In the second place, such statements represent a confusion of thinking between foreign trade and total trade. When the United States raised the prohibitive rates of duty in the Fordney-McCumber Act to still higher rates of duty in the Hawley-Smoot Act there was no apparent diversion of foreign trade on many products because imports had been effectively curtailed on these products before the new higher rates became effective. It is idle to argue that such tariffs did not divert trade. Equality of treatment,

though politically desirable, does not necessarily mean equally good treatment; it may, and oftentimes does, mean equally *bad* treatment.

Noticeably lacking in the book is the recognition that the American interpretation of equality of treatment in the reciprocal trade agreements program went considerably beyond the conventional interpretation of the unconditional most-favored-nation clause. Under the usual interpretation (assumed, for example, on page 203) treaty rates are generalized to all nations with whom a country has unconditional most-favored-nation obligations. The American policy, however, was to generalize to all nations the concessions made, regardless of whether specific most-favored-nation obligations existed, provided the nations were not discriminating against American trade. The only major countries not receiving benefit of the reduced rates of American trade agreements were Germany and Australia. Certainly a policy of this sort has significant implications in the development of the most-favored-nation clause.

The defects noted in the previous paragraphs are minor. The book as a whole is most useful and is carefully written. The book is printed in photo-offset lithography and has not been carefully edited and proofread. This fact explains the larger number of minor typographical errors contained in this book than ordinarily would be tolerated on the printed page. It has, however, made available to scholars generally a good book at a moderate price that might otherwise either have been printed much more expensively or have remained in manuscript form in a university library.

CARL KREIDER

Goshen College

Industrial Organization and Markets; Public Regulation of Business

Managerial Enterprise: Its Growth and Methods of Operation. By OSWALD KNAUTH. (New York: Norton. 1948. Pp. 224. \$3.00.)

"Managerial enterprise" is the author's name for the oligopolies which "dominate the vital half of our economy." He distinguishes it from small-scale "free enterprise," for which he has little use, by noting such characteristics of managerial enterprise as sunk capital, relative rigidity, separation of ownership and management, power of each unit to affect the market, and adjustment of production (rather than price) to changes in demand, all directed to the goal of "a stable and adjustable system, the functioning of which creates profits" (p. 33). He thinks we should clear our minds of obsolete objections to these features, and recognize the merits of enterprises exhibiting them. These merits, summarily, are stability, high productivity, and sufficient power to stand up to government (which presses toward a third form of economic organization, collectivism).

It is not easy to administer the great organizations which confer these benefits upon us. The manager is in a lonely position, umpiring the claims of labor, shareholders, and customers. His responsibility is to deal with them, as well as with rivals and suppliers, so as to maximize, not the profits, but the stability of the enterprise. The resulting satisfactions to the manager are few,

because the goals are so long-run that no individual can see them realized.

The manager of a substantial retail enterprise finds it especially difficult to consolidate the "trade position" required for stability, because retail customers are fickle and some of them are critical. Elaborate and costly measures must be taken to prevent good-will from turning into ill-will. "Advertising policy is dominated by fear. . . . It is the fear of losing their place in the economic structure that spurs organizations to excessive and apparently wasteful expenditures" (p. 67). The managers of heavy industry meanwhile must be busying themselves with building up technological advantages buttressed by patents, with forging long-term exclusive arrangements, and with cultivating established connections.

One reason why constant courtship is essential to woo demand is that "Every other expedient is tried before prices are tampered with" (p. 129). True, many of the expedients conceal cuts, but the necessity for concealment illustrates the sanctity of the stable established price. The resulting market price in managerial enterprise is not one that will clear the market (a phenomenon also noticed by an English observer; see Saxton, *Economics of Price Determination*, 1942, Chap. I). Again the retail consumer is especially troublesome, because he is "as free as air." But "the edge the buyer has on the seller may be whittled away. And this indeed is the prime objective of salesmanship. The seller brings pressure on the buyer in every way possible—by creating demand through forming habits, advertising, demonstrating, 'full-line forcing,' and tie-in arrangements" (p. 109). And, as a last resort, by tampering with prices.

Outmoded legal concepts of monopoly also plague the manager, though "only enough [appropriations are] voted to give the Anti-trust Division a nuisance value" (p. 175). The suggested remedy is a legislative overhauling of the Sherman Act, to mark out the difference between managerial enterprise and exploitative monopoly. The test for illegality would not be power, but the abuse of power, to be found when the purchaser is deprived of freedom of choice to buy elsewhere.

I take the foregoing to be the author's major theses. I have presented them in stark outline to suggest the significance of his little book. The author has drawn on his training as an economist, and on his long experience in department-store operation, to evolve a reasoned defense of management-controlled oligopoly. His observations range over many aspects of management not touched on here. The examples, drawn largely from retailing, make the work a useful companion-piece to Drucker's much more brilliantly executed *Concept of the Corporation*, which explains General Motors.

By and large, the deficiencies of *Managerial Enterprise* in execution are outweighed by its admirable candor. But realism in detail, and disrespect for the slogans of free enterprise, NAM-style, do not atone for decidedly clouded goals. One leaves Mr. Knauth's book with grave doubts about what he is driving at in the way of an economic philosophy. In his conclusion, after lamenting the mishandling of NRA, he calls for a new attempt to formulate codes and standards for business. "As codes of behavior are worked out and

lived up to, the stability which managerial enterprise gives and the initiative it must exercise to hold its position may enable it to ward off the encroachments of harmful social forces. These two characteristics, stability and initiative, make managerial enterprise the form of economy that holds the most promise of serving the manifold needs of our progressive society" (p. 213). The reader is left to ask who is to work out these codes and enforce them? To whom are the encroachments of social forces harmful? May not Mr. Knauth's brand of stability produce stagnation rather than initiative? Will stable enterprises produce national stability in the absence of fiscal and other measures aimed at maintaining national income at high levels? And if such measures are successful, do we need to be so solicitous of the integrity of the enterprise? One final question, not so idle as it sounds: does the protection of the enterprise serve the needs of society, or is society to serve the needs of the enterprise?

RALPH S. BROWN, JR.

Yale Law School

Commodity Exchanges and Futures Trading. By JULIUS B. BAER and OLIN GLENN SAXON. (New York: Harper & Bros. 1949. Pp. xii, 324. \$5.00.)

This is a work of uneven quality. Here it is authoritative; there it retails ideas of others with little discrimination; and once, at least, it deals in pure fancy as though it were fact. The style is in part direct, clear, and scholarly; and in part repetitious and superficial. Broadly speaking, the chapters on legal aspects, if this reviewer judges correctly, are excellent; technical description is good; and the economic discussion is open to considerable criticism.

In scope, the book goes much beyond Emery¹ or Hardy,² whose discussions of futures trading touched chiefly the associated broad economic questions; it, therefore, invites comparison with Hoffman³ or Smith,⁴ and especially with the former, which also is concerned almost wholly with futures trading in the United States. The topics treated are broadly the same as in Hoffman with one noteworthy exception: the present authors add three chapters on legal questions related to futures trading. These make a substantial contribution to the literature, and even a layman can see in them the marks of authority. Other main topics are compressed into little more than half the space given them by Hoffman, largely by omitting various sub-topics and dismissing others with a sentence or two. Repetition of old answers to ill-informed criticisms of futures trading, however, seems to occupy considerably more space than in Hoffman.

The authors put their worst foot forward. Chapter I, "Historical Development of Commodity Exchanges," gives eight pages to the history of fairs

¹ H. C. Emery, *Speculation on the Stock and Produce Exchanges of the United States* (Columbia University Studies in History, Economics and Public Law, Vol. VII, New York, 1896).

² C. O. Hardy, *Risk and Risk-Bearing* (Chicago, 1923; 2d ed., 1931).

³ G. W. Hoffman, *Future Trading upon Organized Commodity Markets in the United States* (Philadelphia, 1932).

⁴ J. G. Smith, *Organized Produce Markets* (London, 1922).

and markets from ancient times, and twice as much space to a miscellaneous collection of other topics. It includes no real discussion of the history of futures trading, but makes the astonishing statement, quite without support, that "The [futures] exchange was conceived and established as a new instrument to perform *insurance* functions in commodity markets and offer protection against various risks which market operators could not secure through the regular insurance companies or otherwise."⁵ Some substantial historical information on futures trading does appear in Chapter VII, "The Futures or Exchange Contract," and a little more in the next chapter, but with no citation of sources. The beginning of futures trading is wrongly dated on first mention (p. 131), but an acceptable date, 1865, is given later (p. 144).⁶

Discussion of economic questions associated with futures trading, in the first third of the book, labors preceptibly under the handicap of failure previously to define futures trading, either formally or through any clear account of its origin. Clarity of the definition finally given suffers from quotation first of two less adequate definitions, and from an attempt to draw a sharper line than actually exists between futures and other forward contracts. The attempt to reinforce the distinction by substituting the term "exchange contract" for "futures contract" seems to me ill-advised. Much of the awkwardness arises from the authors' apparent unwillingness to admit that futures trading gets its characteristics in substantial part from dependence on speculative interest.

The tone of the earlier chapters seems to reflect primary concern with defense of futures trading. If the discussion at times appears to risk insulting the intelligence of a normal college freshman, answer may be given that it is at least on a level with the intelligence of the criticisms considered, some of which have been made by high government officials. Such treatment of the criticisms seems to me, nevertheless, ill-conceived. When people of undoubted intelligence resort to ill-founded criticism, it must be assumed that they do so usually because they believe that valid grounds exist for criticism, but grounds beyond the understanding of people whom they wish to influence. Such criticism cannot be met effectively on its own level; it must be met on levels which will appeal to the leaders of opinion, and so check the influential criticisms at their source. The merits of futures trading involve issues too technical and too intellectually difficult to be tried in a court of low intelligence.

If this is a correct view of the problem, the authors have erred even more by omission than by commission. Relying heavily on citations from distinguished economists, who have always, from the time of John Stuart Mill at least, provided the main source of defense for speculation, the authors ignore the fact that the climate of economic opinion on the subject has

⁵ P. 12. Italics are the authors'.

⁶ In his *History of the Board of Trade of the City of Chicago*, Charles H. Taylor, a member of the Board of Trade from 1868, characterizes an action of 1865 as "formally adopting the principle of trading in 'futures,'" and adds, "For at least ten years [before] . . . a large business in futures had been transacted. . . ." (*Op. cit.*, I, 332; see also *ibid.*, pp. 192, 193.)

changed greatly in the last twenty years. They make no mention of the trenchant criticisms which Keynes directed against speculation, or of the criticisms by other able, if less distinguished economists. This tends to give the impression of inability to meet the criticisms.

This is particularly unfortunate because the criticisms are quite capable of being met, though they cannot be conclusively refuted from present evidence. Clear resolution of the issues must wait on further empirical research, which ought to be going forward more rapidly than it is. But the authors might at least have shown that the intelligent criticisms rest on deductions which may be quite mistaken.⁷

If the excellent treatment of legal questions is open to any adverse criticism, it is beyond the perception of the present reviewer. The discussion of trading practices makes an unfortunate choice in treating the important subject of relations between spot and futures prices (Chap. XII) in terms of the obscure and confused "basis" terminology of the cotton market. It might have been treated much more clearly, as by Hoffman, in the language of "premiums" and "discounts" used in the grain trade. As regards influences affecting these relations, the authors quite naturally follow traditional theory, which the present reviewer has found seriously in error.⁸

In short, this is a book which makes some important contributions to its subject; it may serve a useful purpose as a popular presentation of defenses of futures trading; but as a college text or reference work, it has serious shortcomings, which require that it be carefully supplemented.

HOLBROOK WORKING

Food Research Institute, Stanford University

⁷ See, for example, "Futures Trading and Regulations," (discussion of a paper by G. Wright Hoffman) *Jour. Farm Econ.*, Vol. XIX (1), (Feb., 1937), pp. 309-12; and as regards some possible lines of research, "The Investigation of Economic Expectations," *Am. Econ. Rev.*, Papers and Proceedings of the Sixty-first Annual Meeting, Vol. XXXIX, No. 3 (May, 1949), pp. 150-66, both by the present writer.

⁸ "Theory of the Inverse Carrying Charge in Futures Markets," *Jour. Farm Econ.*, Vol. XXX (1), (Feb., 1948), pp. 1-28.

Studies in War Economics. Prepared at the Oxford University Institute of Statistics. (Oxford: Blackwell. 1947. Pp. 410. 25s.)

This book contains a collection of 53 articles reprinted from the Bulletin of the Institute of Statistics and a few other British periodicals, which appeared during the war years. The reprinted articles are grouped in seven sections: (1) Economic mobilization and general controls, with contributions by I. Bowen, G. D. N. Worswick, T. Balogh, J. Steindl, F. A. Burchardt and M. Kalecki; (2) War finance, with articles by H. Durant, J. Goldman and others; (3) Consumer's rationing and price control, with articles by Kalecki, J. C. Nicholson, S. Moos and others; (4) Wages and national income (Nicholson and others); (5) Consumption and prices (T. Schulz, G. H. Daniel and others); (6) Industrial organization (P. Ady and others); (7) War contracts and efficiency (Steindl, Kalecki and Worswick).

The various articles deal with the issues of British economic policy that arose during the second world war. Some of them have a narrow focus and the form of editorials. Others give accounts of the development of policies and controls. Some are abstract theorizing and others provide detailed descriptions of institutions or analyses of statistical data.

The purpose of the book is to make the articles more readily available since "the circulation of the Institute's *Bulletin* was limited and back numbers have long since been out of print." Their re-publication in book form may be of help to students of the British war economy and, in a few instances, to students of more general and contemporary economic problems. Beyond this service the book offers no contribution. It would have been made more useful by the application of some editorial effort. Articles might have been prefaced with summaries of the developments leading up to the problems they discuss. The ideas of some of the authors might have been put in perspective by references to conflicting views or to their effect on policies. As it is, this is a bundle of reprints—several of them worth having—but it is not a book.

HORST MENDERSHAUSEN

New York, N.Y.

Politics and Poverty. By LEWIS C. ORD. Foreword by P. MALCOLM STEWART. (New York: Funk & Wagnalls, 1948. Pp. xii, 188. \$3.00.)

Since the end of the war we have seen an intensive interest in the question of industrial productivity, particularly in Great Britain. One of the first acts of Sir Stafford Cripps as chairman of the Board of Trade in 1945 was the appointment of nearly a score of "working parties" to investigate productivity in their respective industries and to report findings and recommendations. At the same time, several technical missions were dispatched to the United States to study American methods.¹ Just now we have a series of visiting "production teams" touring this country under the auspices of the Anglo-American Council on Productivity.

We are indebted principally to Dr. L. Rostas, of the National Institute of Economic and Social Research, for statistical analyses of productivity in the two countries, presented in his recent work, *International Comparisons of Productivity in British and American Manufacturing Industry*.² In the field of non-statistical comparison, however, no one has done more than Lewis C. Ord, author of the work under review. As a production engineer with extensive experience in England, Canada, and the United States, he has had an uncommon opportunity for observation and speaks, accordingly, with unusual authority.

In his earlier book, *Secrets of Industry*, Mr. Ord analyzed the organization and mechanics of mass production as practiced here and in England, pre-

¹The reports of these working parties and technical missions have been summarized briefly in *Technological Stagnation in Great Britain*, Machinery and Allied Products Institute, 1948.

²Macmillan (London), 1949.

senting a general critique of industrial efficiency in that country. The present work, though overlapping the earlier one to some degree, is concerned, as the title indicates, primarily with the non-mechanical factors underlying the backwardness of British production—the restrictionism practiced by trade unions and industry, nepotism and the caste system in management, the lack of technical education, stuffed-shirt directorates, and above all, the absence of a national antitrust policy.

Mr. Ord is a vociferous critic of over-centralized planning and administration, whether industrial or governmental. Needless to say, he is an uncompromising opponent of Socialism, in all its forms. That his views would cheer and confirm the most zealous proponent of free enterprise may be indicated by a brief quotation:

Ignoring the countries in between, there are two sharply opposed national systems which direct the businesses of a nation. These businesses may be completely planned and ruled from the top, without competition, as in Russia. They may be kept sharply competitive, decentralized, and lean at the top, as in the United States. . . . Were these two systems used to operate the industries of two countries, each of them equal in tools, equipment, technical efficiency, workmen, managers, and everything else, one system would produce double the prosperity for the people that could be obtained under the other. . . . The British Government have chosen the least efficient of these two industrial systems as their ideal and model.

The book suffers, unfortunately, from certain literary defects. It is poorly organized and repetitious. Nevertheless, if the reader is not too impatient with its shortcomings, he will find it an interesting and provocative discussion by one of the few men qualified by personal experience to engage the subject.

GEORGE TERBORGH

Washington, D.C.

The Sugar Industry and the Federal Government: A Thirty Year Record (1917-47). By JOSHUA BERNHARDT. (Washington: Sugar Statistics Service. 1948. Pp. vii, 344. \$3.90.)

Dr. Bernhardt presents in his book the development of the policy of the federal government with respect to sugar during the thirty-year period beginning with the government control of sugar in World War I.

The book is divided into four parts. In Part I, the author analyzes government control of sugar during World War I. Part II covers the period of high-tariff protection of the sugar industry during 1921-1934. Part III presents the federal regulation of the sugar industry during the Roosevelt administration before the entrance of the United States in the war in 1941. And, finally, Part IV deals with government control of sugar during World War II.

The book under review is not really a book written anew by the author. It is partly a collection of Dr. Bernhardt's earlier publications, published separately in economic journals, and partly a collection of government documents, such as reports of various government offices and bureaus dealing with sugar, testimony of the author before various congressional committees, etc. How-

ever, the author participated in some way in the preparation of practically all of those documents during his long and intimate connection with various federal offices dealing with sugar. Some of these documents are signed by Dr. Bernhardt in one or another of his official capacities; others were fully or partly prepared by him. Because of this fact the book represents a certain unity, in spite of the fact that it is a collection of articles and official documents published at different times. Their selection was skillful enough to present in a relatively short space a fairly complete history of the federal sugar policy, and the several important changes that it underwent during the thirty years reviewed.

The inclusion in the first part of the book of the author's earlier publication, *Government Control of Sugar*, published in 1920 and long out of print, may be welcomed since it permits the reader to see to what extent the experience during World War I was utilized by the government in organization of controls during World War II, and to what extent the earlier errors were repeated.

Since the larger part of the book consists of documents, in the preparation of which the author participated officially, and since most of his articles also were written when he occupied one or another official position, the history given in the book is an official history, defending government policies rather than criticizing them. In his defense of government policies, however, the author is always inspired by the public interest.

The book will be useful for the students of the economic history and economic policy of the United States, and may be profitably used as reading for college courses.

V. P. TIMOSHENKO

Food Research Institute, Stanford University

Public Utilities; Transportation; Communications

American Transportation in Prosperity and Depression. By THOR HULTGREN. Stud. in Business Cycles, No. 3. (New York: National Bureau of Economic Research. 1948. Pp. xxx, iii, 386. \$5.00.)

This book is written as a planned development of studies by the National Bureau of Business Research on business cycles. Basic analyses of cyclical fluctuations are to be found in Mitchell, *Business Cycles: The Problem and its Setting* and, more recently, in Burns and Mitchell, *Measuring Business Cycles*. In these volumes, and especially in the second, the authors described methods of attack, established a reference scale that distinguished periods of expansion and contraction, and discussed the behavior of selected cycles with respect to duration, amplitude, and other important characteristics. The Bureau now proposes to build upon such foundations by publishing a series of monographs, each of which will seek to establish the cyclical behavior which has been characteristic of an important activity or group of activities. Hultgren's railroad study is the first of these undertakings which has appeared.

Hultgren finds that the length of the cyclical periods in railroad freight transport and the location of turning points conform with reasonable pre-

cision with the established reference scale. There is no great lead or lag. Over the period 1869-1938 ton miles usually reached a peak later and a trough earlier than did business; after 1914, however, the variations were slight except in the case of the depression which reached its lowest point in 1933. Passenger travel showed greater variations from the assumed norm; in the successive contractions and expansions 1929-33, 1933-37, 1937-38, and 1938-40, however, the conformity of passenger, excluding commutation travel, with the reference scale was very close. Hultgren's observations, therefore, testify to the accuracy of the frame of reference with which comparisons are made. There is a good deal of local cross movement within each cycle, but not enough to obscure the character of the cycle as a whole.

Considering further and more particularly the effects of rising and falling traffic upon the physical and financial averages which can be derived from railroad figures, the author reports and explains the facts in great detail. Periods of rising traffic are characterized by heavier carloading, by longer trains and heavier trainloads, and by a record of more miles and ton-miles per month for freight and passenger locomotives. In passenger trains there are more people in a car and more cars in a train. Jobs increase as traffic grows, although not as rapidly, and the output per man hours in ton and passenger miles is greater, especially in the first segment of an expansion. In periods of contraction there is more empty car mileage, fewer tons and passengers in cars, and more labor paid for that is not used. On the other hand, the speed of trains increases more rapidly with contracting than with expanding traffic and there are fewer terminal delays and less wasted time in handling loaded trains upon the road.

Hultgren points out that, as a net result of these variations, every expansion is associated with a corresponding fall in cost per traffic unit and every contraction by a rise. He says: "The data . . . suggest that, under comparable conditions as to morale of labor, quality of fuel and materials, efficiency of management, prices and wage rates paid, a large volume of traffic would always be accompanied by a unit cost lower than that which would accompany a smaller volume of traffic." This, he thinks, is the fundamental reason why railroad profits rise during periods of expanding traffic in spite of some influences which might cause a contrary result. The turning point in costs, he notes, is generally after the high point of a traffic expansion and the low point of a contraction in volume has been reached, although the most rapid increases or decreases occur in earlier periods of the cycle in each case. Profit margins do not, characteristically, shrink while volume is still growing; their behavior does not, therefore, afford an indication of radical changes still to come.

There is much that is interesting in this analysis both for students of cycles and for those who are interested in the railroad industry as such. For the former it provides a vivid picture of the internal changes which occur in an industry under broad cyclical pressure. The statistical material examined is very large, and the correlation of averages of performance in particular aspects of railroad work with the over-all movements of traffic is interesting and plausible. Moreover, the variety of reliable data in the controlled railroad

system is so great that it is possible to attempt interpretations which might be dangerous in other cases. For students of railroading, as such, the study provokes reflections with respect to the operating characteristics of railroad undertakings.

Speaking to the second point but, perhaps in part to the first also, it seems to the reviewer doubtful that Hultgren is right in asserting that a large volume of traffic in railroad operations is always accompanied by a unit cost lower than that which would accompany a smaller volume, even after the documentation which his monograph supplies. If, at a given date, say for the year 1946, traffic units are computed and averages of performance drawn, it will not appear that the lowest costs or most favorable operating results in the United States will be found associated, peculiarly, with rail carriers which enjoy a high density of traffic stated in terms of traffic units per mile of road. This is true, for instance, of operating expense per traffic unit. In 1946, the operating expense of the Pennsylvania Railroad with 7,895,000 traffic units per mile of road was .93 cents per traffic unit, while that of the Illinois Central with 3,648,000 traffic units per mile of road was .74 cents per traffic unit. The conclusion is not drawn from two selected comparisons; a multiplication of instances will show that the correlation is inexact. What is true of operating expenses generally is understandably true of fuel costs per traffic unit, and it is also true of averages such as those of gross ton miles per traffic unit in which no monetary elements appear. In 1946, the number of gross ton miles per traffic unit was 3.1 on the New York Central with a density of 5,317,000 traffic units per mile of road, 2.9 on the Southern with a density of 2,793,000 and 2.4 on the Pere Marquette with a density of 2,397,000. A high rate of gross ton miles to traffic units is, of course, an unfavorable sign.

What the author's figures show is that an *increase* in traffic will lower unit cost and that a *decrease* in traffic will raise it with a given capital equipment or at least with an investment which does not fluctuate with volume. This is the question of full utilization of capacity at any time as distinguished from the question of economy of scale. As a matter of fact there is, naturally, excess capacity at the trough of any cycle in the railroad industry. One would be inclined to expect, also, a general tendency toward excess capacity over longer periods as a result first, of the emergence of other forms of transport and, second, of advances in the rates of pay of railroad workers which may well have reduced the marginal product of a dollar spent in hiring a laborer below the marginal product of a unit of capital devoted to railroad work. The second influence would explain the steady decline in the man hours paid for in maintenance work per 100,000 traffic units between 1921 and December, 1938 which Hultgren reports and here correctly explains. There seems to have been a similar decline in the case of maintenance of equipment, in train and engine employees, and in the category of yardmasters, switch tenders, etc.

One may easily suppose that the characteristic oversupply of railroad facilities, especially since about 1920, the steady pressure for the substitution of machines for men, and the offsetting effects of political and industrial in-

fluence exerted by an organized personnel may have altered the amplitude of fluctuations in railroad traffic and also the behavior of averages of performance in particular cases. It seems an oversimplification to explain changes in cost merely in terms of volume, in view of these facts, and it is particularly hazardous to connect variations in specific performance with volume, to the degree characteristic of this monograph, without reference to other factors which may have entered in. Of course, the author does not think that this is so. Whether he is correct or not will be shown, doubtless, by later studies in the series which will deal with industries which have different characteristics than are associated with railroad operation.

The material in the monograph is well arranged and fully illustrated by graphs and tables. The treatment is objective, and important points are thoroughly discussed. Some attention is given to the transit industry, to highway traffic, and pipe lines and water traffic, although statistics in these areas do not permit elaborate analysis. There is, finally, a chapter on future cycles. The volume deserves attentive study, and will rank as a contribution in its field.

STUART DAGGETT

University of California, Berkeley

Land Economics; Agricultural Economics; Economic Geography

Agricultural Economics. By BENJAMIN HORACE HIBBARD. (New York: McGraw-Hill. 1948. Pp. ix, 441. \$5.00.)

The author of this book has given special emphasis to the historical development of the problems in agricultural economics. In so doing, Dr. Hibbard has drawn on his many years of experience in agricultural economics and has shown his keen awareness of the interrelationship of political and economic forces. Most of the major problems usually recognized in an over-all approach to agricultural economics are included. Special emphasis, however, is given to tenancy, to the tariff and its effect on agriculture, and to the development of farm movements and the farm organizations in this country.

It may be classed as a philosophical and historical treatment of the economic problems of agriculture without too much attempt to point to their solutions. It is more of a look backward than a look forward. Statistical data are kept to a minimum except as they are used to paint the historical picture and portray current trends. It is in the analysis of the economic development of agriculture and in pointing out some of the fallacies of our agricultural policies that the author makes his contribution rather than through an analysis of present-day economic problems.

With the exception of the first chapter which concerns itself with the meaning of economics, the first sixteen chapters deal largely with that group of problems which one normally expects to find in an orthodox agricultural economics text, such as farming in a modern society, why so many farms, rural population, size of farm, machinery, factors of production, intensity of cultivation, land values, wages, rent, credit, marketing, and farm

cooperatives. The remaining eighteen chapters of the book are devoted largely to tenancy, tariff, and the development of farm organizations. In the treatment of the problems in the first chapters, the question may be raised in some readers' minds as to whether the developments in agriculture and in agricultural economic research during the past two decades have been given sufficient weight. Both the treatment and references would indicate an undue emphasis on conditions in the earlier periods at the expense of changes and developments in recent years.

A detailed treatment of the tariff and its effect upon agriculture is presented. The author explains why the farmers of the mid-west have been for protection even though it has been against their economic interest. In this section the author has also pointed out desirable future policies. As excellent as the treatment is, the question may well be raised as to whether the tariff has not been over-emphasized as a solution to agriculture's price and income problem. The assumption, that the only way that the United States can trade with the other countries of the world is on a lower price level, might also be challenged. With the national debt at its present level and many other fixed costs at high levels, it might well be argued that adjustments should be made in exchange rates and in other areas rather than reducing prices which would allow us to continue to trade with the rest of the world.

Very little attention is devoted to the economic problems of agriculture arising out of the unstable nature of the domestic economy. Little attention is given to the role of monetary and fiscal policy in stabilizing the general economy and, in turn, the demand for farm products. To the author these may seem of minor importance and simply reflections of the major problems of world trade. He concludes his book with the sentence "What we most need, and eventually must have, is reestablished world trade."

In the chapters dealing with farm movements and the development of various farm organizations, the author demonstrates first-hand knowledge of the political forces causing the development and decline of these various movements and groups. For anyone interested in farm organizations, this section is particularly valuable. It should be read by those interested in agricultural policy as well.

One cannot help close the book with a feeling of pessimism as he views through the author's eyes the recent problems of agriculture and our attempts to solve them. Nor do the author's uncertainties concerning his position and his appraisal of the practical possibilities of a realistic approach in the years ahead encourage one. One misses in the written page the stimulation of Dr. Hibbard's pungent sense of humor when speaking, which always made things seem not quite so gloomy as they really were. But it still reveals his gift for discussing economic subjects intriguingly and in non-technical language. Students of agricultural economics and many others, will find this book a contribution to the economic history of agriculture and agricultural policy.

J. CARROLL BOTTUM

Purdue University

Labor

Government Regulation of Industrial Relations. By GEORGE W. TAYLOR. (New York: Prentice-Hall. 1948. Pp. xii, 383. \$4.00.)

American Labor and the Government. By GLENN W. MILLER. (New York: Prentice-Hall. 1948. Pp. xiv, 638. \$5.50.)

A revisionist voluntarism permeates Professor Taylor's important book in which, in the course of reviewing industrial relations over the past decade and a half, he sets forth his philosophy of collective bargaining. His is not the voluntarism of the Gospel according to Samuel Gompers who was suspicious alike of private arbitration and government regulation in any form. Taylor does not propose collective bargaining totally unconstrained by interference or the reaching of agreements unimpelled by any outside influence. His acceptance of voluntarily agreed upon compulsion is evidenced by support of voluntary arbitration and "government regulation instituted with the acquiescence of the parties directly affected" (p. 8); and of compelled "voluntary" agreements by acknowledgement of public and governmental pressures which can lead the parties to contracts not based upon full consent, as sometimes happened under the guidance of the National War Labor Board. He inhabits a quarter-way house between collective bargaining based on spontaneous acts of choice and on government regulation.

Professor Taylor has picked a most significant problem: the accommodation of organized labor, large-scale and increasingly organized industry, and government to each other. We have passed from an essentially atomistic and independent society to an increasingly pluralistic and interdependent one. The distribution of effective decision-making power is as perplexing as it is momentous. Taylor favors "better industrial self-government" as against the "worldwide trend toward the amassing of power in central government" (p. ix). "Further steps down the road of government regulation could lead us far away from the basic principles upon which our country is built" (p. 276). He does not take a solitary stand, for his philosophical opposition to government regulation of industrial relations is shared by the National Association of Manufacturers, the Chamber of Commerce, the American Federation of Labor and the Congress of Industrial Organizations. None of these organizations favors such control in principle—but sometimes in practice when used against its adversaries. This distinguishes Professor Taylor who does not favor it, *per se*, at any time. His position may well prove to be the accepted basis for federal policy in the future, despite the public opinion polls which show considerable support for compulsory arbitration, and the high tide of federal intervention in collective bargaining may have past.

The arguments advanced against compulsion are persuasive. Government interference will transfer union-management controversies into the "political arena" where satisfactory solutions will be harder to achieve than around the conference table. The power of government will be unduly augmented, which is an "ample cause for disturbing concern to those who still believe in industrial self-government" (p. 336). Acceptable standards have not yet been developed as a guide for coercive decisions. Enforcement, in a democ-

racy, can become a disturbing complication if powerful private organizations choose not to comply. Compulsion, further, is not popular with the parties potentially subject to it.

The disquieting reality is, however, that "industrial self-government" may not always work. It may turn into collusion. Or the parties may not, as Taylor suggests they do, "set up their own machinery for settling disputes wherever a strike or a lockout entails an undue social cost" (p. 22). Or the wage policies pursued may not conduce to economic stability; or union members may not be given ample opportunity to select and instruct their leaders. Suppose the parties do not show the recommended "increasing regard for the public interest" (p. 13); and suppose also government regulation cannot be instituted with "the acquiescence of the parties directly affected," should "industrial self-government" then be preserved? Professor Taylor hopes the parties will be wise enough to conduct themselves sufficiently circumspectly so that this question may never demand a definitive answer.

This is the orientation from which Taylor approaches his examination of collective bargaining in the United States since the passage of the National Labor Relations Act in 1935. Few men have had such a vantage point from which to view the important developments. He has combined successful arbitration, including experience as the contract umpire between General Motors and the United Automobile Workers, with distinguished public service as chairman of the National War Labor Board and executive secretary of the President's Labor-Management Conference, and in other capacities. Chronological age aside, he is one of the very leading "elder statesmen."

The period covered opened the modern phase of collective bargaining and was one of deepening federal involvement. It afforded the American public, according to Taylor, an opportunity to observe three alternative governmental approaches to collective bargaining. First, the Wagner Act assisted unions to organize and took the parties across the "threshold" into collective bargaining. After that they were to be on their own. Second, the operations of the National War Labor Board illustrated "government policy designed to facilitate and to bring about a meeting of minds of the parties to a dispute" (p. 202). Third, the Taft-Hartley Act, while many of its individual provisions are supported by Taylor, represented "government-managed collective bargaining."

Professor Taylor unequivocally prefers the second. The success of the Railway Labor Act of 1926 and of some of the industrial relations legislation in Sweden does indicate the advantages of governmental regulation based on a degree of prior consent; and it is frequently accepted that this is the best current approach to the problem in the United States generally. Taylor, however, identifies the National War Labor Board rather more with his preferred form of voluntarism than some aspects of the program seem fully to warrant. While the Board had an amazing record of compliance, some minds did not meet under conditions of full freedom and consent. The program, however, is identified as an "inter-weaving of mediation and voluntary arbitration" (p. 161). The no-strike and no-lockout agreement of certain leaders of industry and labor on December 23, 1941, made the agency "a board of volun-

tary arbitration set up under government auspices" (p. 134). And yet, as Taylor points out, these leaders "lacked any formal authority to bind labor and industry generally" (p. 139). Writing about the Lewis, Petrillo and Avery cases, Professor Taylor says, "It would be erroneous to look upon awards in these cases as compulsory arbitration determination. Quite the contrary was the case. They were no more than 'recommendations'" (p. 161). However, when Avery did not like the "recommendations," the federal government did see to their implementation anyway. Rather more credit appears due the emergency powers of the President and the support of public opinion in wartime, as elements of compulsion, than this book gives. Forty plants were seized, and wages were stabilized even when both parties were opposed.

The National War Labor Board did, however, work a miracle in securing consent for its actions and Professor Taylor discusses some of the methods. Tri-partism helped a great deal. Mediation was skillfully undertaken within the Board and between the parties. "Disputants were seldom surprised" (p. 159)—since the Board had a very good system of facts. "Acceptable decisions" were strenuously sought and customarily found. The contribution of the author of the book to this success story was an indispensable one.

Professor Taylor deeply regrets "the failure of the President's National Labor-Management Conference of 1945 to work out any procedures that could come into play when collective bargaining failed" (p. 204) and thinks this failure "led directly" (p. 207) to the Taft-Hartley Act. In commenting on private arbitration he observes that "mediation in arbitration should not be dismissed as a possibility unless a contrary desire of one of the two parties to the dispute is explicitly expressed" (p. 137), and believes that "mutual acceptability remains as an important attribute of a first-class decision" (p. 158). In many other ways he also shares the conclusions flowing from his rich experience.

"The great industrial relations challenge has been the effectuation of collective bargaining as a constructive social institution" (p. vii). Taylor's essential answer to this challenge is to recommend the full acceptance by the parties of collective bargaining and of each other, good negotiation procedures, mediation and voluntary arbitration. Rather than that government being best which governs least, that government governs best which governs with the consent of organized groups. This may well be the essential lesson for a pluralistic society to learn.

The volume by Miller is of quite a different order. It is a regulation textbook for a non-professional labor law course. It catalogues how far the courts and the government have gone in regulating labor conditions and collective bargaining. While somewhat uninspired, it is a straightforward and clear exposition of the essential facts, and has the great merit of being up to date. It covers the standard subjects including, among many others, the conspiracy doctrine, the antitrust cases, the injunction, workmen's compensation, child labor laws, the National Labor Relations Act, wartime labor controls, and the Fair Labor Standards Act.

The two books, taken together, would make a good combination for an undergraduate course in labor law. The first offers the stimulating opinions of

a seasoned participant, and the latter the carefully documented factual details.

CLARK KERR

University of California, Berkeley

Labor in the American Economy. By WILLIAM S. HOPKINS. (New York: McGraw-Hill. 1948. Pp. xi, 368. \$3.50.)

Both the author and the reviewer of textbooks in labor problems are today faced with some difficult questions virtually nonexistent before the war. A decade or more ago the college course in labor was fairly well standardized, consisting in the main of an analysis of "problems," followed by an exposition of the ways in which the parties to industrial relations—industry, labor, and the government—attempted their "solution." Most instructors, judging from the publishers' advertisements, relied on one of the several comprehensive textbooks then available as a principal source of reading material. The author of a labor text therefore knew his market, and, given sufficient skill in writing, analysis, and exposition, could look forward expectantly to a respectable number of "adoptions."

Today, however, both course content and teaching methods are undergoing significant changes. The postwar swelling of the labor relations curriculum, apparent in the establishment of professional schools and institutes, is spilling over into the liberal arts college where more specialized courses are being developed. At the second annual conference on the teaching of labor economics held at Cornell University last summer, the discussions revealed the increasing number of specialized courses being offered in such areas as labor law, social security, collective bargaining, labor legislation, and labor economics. The round table on orientation courses in the labor field revealed little agreement among the participants on the objectives of such a course, its content, materials, or techniques of instruction. So far as any generalization emerged from the sessions, it appeared that the teachers present spent 60 per cent of their time on the area of collective bargaining, with 40 per cent being devoted to a discussion of the labor force and to wage and employment theory. Protective labor legislation and social security were the fields usually omitted because of lack of time or the availability of separate courses.

On the question of teaching methods and materials, the conference indicated even more sharply a definite trend away from the use of general texts in favor of experimentation with field work, discussions, case studies, rôle playing and other "laboratory" methods.

Two questions thus emerged from this sector of the conference: Is the one-semester course in labor problems vanishing, at least to the extent that no one can safely predict its content? And is the textbook tending to become an obsolete tool of instruction? If, as seems likely, a tentative affirmative can be given to both these questions, then the market for single general texts is changing, making it difficult for author and reviewer alike to judge the demand for a new product.

Professor Hopkins's product has several novel characteristics. The author is frankly in revolt against the increasing length and encyclopaedic character of recent texts. Because of his own experience with the futility of asking elementary students to master the vast body of detail now existing, he has sought to write a brief volume using as a unifying theme the problems growing out of the employer-employee relationship. To accomplish this with the necessary economy and brevity, he omits any consistent exposition of economic theory on the ground that this subject has already been covered in the elementary economics course. (The conference last summer, however, exhibited no agreement on the question of whether an economics course should precede a labor course, nor, even when it did, whether the teacher could safely rely on the assumption that the students had acquired a sufficient mastery of principles which could be applied without more training to labor economics). Statistics and other labor facts are also used sparingly by Professor Hopkins since current sources are available to supplement the descriptive material of the text, while the intricacies of labor law and social security legislation are left for more specialized courses.

What remains after these major operations on the body of labor knowledge is divided into three parts. Part I: Labor Problems, is devoted principally to an analysis of types of unemployment, with somewhat briefer treatment of the forces determining wage rates, hours, and working conditions. Part II: Collective Bargaining, includes a description of union and employer organizing tactics, and the bargaining process; an analysis of the typical provisions found in labor agreements; and a discussion of contract administration, including the arbitration of grievances. Part III: Labor, Management and the Public, consists of two brief and wholly inadequate chapters comprising only 17 of the book's total of 302 pages.

This volume invites examination by those who agree that the subject matter of the introductory course should be confined largely to an exposition of the problems of unemployment and collective bargaining. Professor Hopkins writes clearly and entertainingly on these topics, succeeding in his avowed aim to match the lively, informal, and very human nature of his subject matter with a corresponding style and treatment. The bibliographies at the end of each chapter are well selected and should prove helpful for the supplementary assignments which the brevity of this book makes possible.

But while the volume gains in readability from its simplicity of presentation, it also suffers from some obvious defects of oversimplification. In fact, the very smoothness of the exposition may tend to lull the student into a belief that most of the problems mentioned lend themselves to easy "solution." Even the author himself seems at times to lapse into just such a narcotic state as when he asserts, for example, that methods of wage payment furnish "one of the most easily removable sources of conflict in American industry" (p. 127), or when he states that "the many decent employers in the nation are in large part responsible for the appearance of so many decent union leaders" (p. 124). This same tendency to substitute assertion for analysis can be seen in other sections of the book; for example, in the state-

ment (p. 207) that "persuasion by a picket is quite legal provided it is peaceful in the eyes of the court," which overlooks the grave new legal issues posed by the Taft-Hartley Act.

The chapters on labor history and collective bargaining, while in no sense novel in analysis, have the merit of providing for the elementary student some perspective over the territory of labor relations before he begins his journey afoot. But here too the omission of the legal background may well blind the student to the trail. Thus, the treatment of negotiable and non-negotiable issues (pp. 224-25) suggests that when a rival union demands bargaining rights, the union which has been the bargaining agent will refuse to negotiate on the issue of recognition. This may be true, but only partially so, for certainly some hint should be dropped to the student at this point that the National Labor Relations Board may have a voice in determining the question. Similarly when the Act is mentioned in connection with union shop elections (p. 238), the exposition is too brief to give the student any idea as to what the controversy concerning this requirement has been all about. Again, the author makes the assertion that under the 1947 Act, most unions have refused to sign a no-strike clause, a fact which may be true, but for which we have at the moment, to the best of this reviewer's knowledge, no reliable verification. It may also be proper to ask why there is no mention of the growing importance of health and welfare funds as an issue in collective bargaining today.

The chapter on arbitration is one of the most useful in the book, for this is a new field where very little simple expository material has crept into the texts. But here again the author falls into the error of oversimplification when he asserts (p. 276) that a conscious accumulation and following of precedent is desirable in grievance arbitration—certainly a debatable statement—or when he states that at least one level of appeal should be provided for a review of the original arbitrator's award.

These statements of partial truths, together with some careless textual errors such as the references to the Maximum Employment Act and the Board of Economic Advisors when the appendix provides the correct designations, or the inference (p. 153) that the anti-Communist faction has regained control of the Furriers union, suggest that this volume should be used only by an experienced teacher who can make the necessary factual corrections, fill in the gaps in statistics, theory and law, and point out the broader issues involved in labor management relations. But an experienced teacher may not need or desire a textbook, preferring to experiment with the wider range of techniques and materials now coming into use. We revert, therefore, to the questions posed at the beginning of this review as well as to that raised by Professor Hopkins in his preface. Perhaps the way to meet the expansion of knowledge in the labor relations field lies not in tearing away the flesh to expose the skeleton but in a greater articulation of the curriculum. For knowledge in this field is rapidly becoming too extensive to be confined either to a single text or a single course.

JEAN TREPP MCKELVEY

Cornell University

The New Men of Power—America's Labor Leaders. By C. WRIGHT MILLS.
(New York: Harcourt, Brace. 1948. Pp. 323. \$3.50.)

As Professor Mills sees it, the "main drift" in the United States is "towards war and slump." The only organizations that can stop this drift are the trade unions (p. 3). But labor-business cooperation, he believes, is not the route to peace and prosperity; it is a "trap set by the sophisticated conservative" into which the "labor leader is walking backwards" and thus helping to move the United States "into a corporate form of garrison state" (p. 233). These conclusions have international implications, for Professor Mills also believes that "What the U. S. does, or fails to do, may be the key to what will happen in the world. What the labor leader does, or fails to do, may be the key to what will happen in the U. S." (p. 3). Otherwise stated, the labor leaders "are now the strategic elite in American society." Our prospects are indeed dim, however, if it is correct to characterize these leaders and the general situation by writing that "Never has so much depended upon men who are so ill-prepared and so little inclined to assume the responsibility" (p. 291).

The characterization of the labor leaders, correct or no, rests upon a set of facts and generalizations that are in themselves highly interesting and thought-provoking. (Some readers will find certain items only provoking.) For example, there are data on a large sample of A.F. of L. and C.I.O. leaders concerning their ages, formal education, nativity, occupations of fathers, "image of business," incomes, and their attitudes toward the old political parties and the desirability and prospects of a new party.

Among the generalizations, the following are particularly worthy of note. Radio newscasts, radio comments, and newspapers are "not kind" to organized labor and its leaders. The "general rule" is to "ignore the peaceful and stable features" of union activities and emphasize in detail the strikes, deadlocks, and violence (p. 32). More than half the questions put by the polling organizations to the public about organized labor in the period 1940-45 were biased against unions (p. 298). Labor leader racketeers, in using the power of unions to improve their business positions, "have merely adapted themselves to the prevailing circumstances and practices of American economic life" (p. 123).

Professor Mill's conclusion that labor leaders are ill-prepared and disinclined to use their position as the strategic elite to try to stop the main drift rests in large part upon the results of the application of four tests of "militancy." To be "adequate" to the prevailing situation those leaders must: (1) "see the immense power and influence of business and its associations on national affairs"; (2) "recognize the intent of business to break or shackle labor unions"; (3) "see that the two dominant parties are blind traps"; and (4) favor "a labor party, at least within the next ten years." The author continues: "According to these standards, which are not very rigorous or trustworthy, 8 per cent of the C.I.O. and 4 per cent of the A.F. of L. leaders qualify" (pp. 288-89). His conclusion rests, for another part, upon examples designed to show that in the name of union-management cooperation labor

leaders have at times "lined up with the vested interests of [an] industry against the general business community, not to mention the public." Such developments could (at times he seems to mean would more or less inevitably) lead to nationwide cooperation under state control; that is, to a corporate state (pp. 228-29, 121, 132, 154).

Although, as noted, Professor Mills considers the unions "the only organizations capable of stopping the main drift," it is abundantly clear that he believes their leaders and members must develop more political awareness and become the core of a new party. It is, therefore, at least disconcerting to discover (pp. 274-81) that the other constituents of this party would be almost identical with those previously proposed by some labor leaders. Those proposals had been contemptuously dismissed as collaboration "with the practical right to form another party just like those already existing" (p. 214). Furthermore, the author would have been well advised to use less sweeping language in his contention that in "all countries" the "intellectual . . . has succeeded only in rare instances and for short periods of time" in "raising the level of political awareness" among workers (p. 281). Nor does Professor Mills indicate appreciation of the difficulties involved in encouraging consumer cooperatives and at the same time organizing as a part of the "left" the small-business men. Austrian experience is pertinent to the last two comments. Again, it is scarcely consistent to write that "The New Deal destroyed any reason-for-being of a national third party" (p. 181) and to argue for one at considerable length. The claim that the effect of the New Deal was "to destroy the chances over a long time for independent political action by labor" (p. 184) may have been intended as a qualification of the flat "destroyed" of the earlier sentence. If so, the reader wonders whether the author failed to take into account his own generalizations that under conditions of slump "the size and significance of the political publics may undergo great change with bewildering swiftness" (p. 28) and that a slump is inevitable (pp. 30, 238, 243, *et al.*). Finally, in this little catalog, it is simply untrue that "intellectuals . . . have consistently supported independent political parties" (p. 217).

None of the foregoing is intended to deny that Professor Mills has written an outstanding, stimulating and highly useful book. It remains regrettable that certain inconsistencies and discrepancies leave the reader in doubt about the thoroughness with which the author thought through a few of his major problems and proposals.

CHARLES A. GULICK

University of California, Berkeley

Collective Bargaining: Principles and Cases. By JOHN T. DUNLOP. (Chicago: Richard D. Irwin. 1949. Pp. xvi, 433. \$4.00.)

This book is designed for classroom use at an elementary level. It has grown out of the teaching of the course called "Trade Unionism and Collective Bargaining," which, at Harvard, is a one-semester introduction to Labor Economics. The book is divided into two parts: a section comprising a discus-

sion of the elements pertinent to an understanding of collective bargaining, including chapters on the emergence of collective bargaining, a national policy, union-management organization, the labor agreement, and standards for wage determination; and a section comprising a collection of cases arranged by issues, covering discharge and discipline, status of union and management representatives, union security, employment rights, work schedules, vacations, and wages.

While the introductory discussion is good, the chief merit of the book is the presentation of cases. Although not intended to cover all issues, the selection of cases is balanced and the book should prove useful as a supplement to the traditional type of text in the general Labor Problems or Labor Economics course, or it should prove useful as a text in a course introductory to the study of collective bargaining.

The merit of Dunlop's presentation of cases, as distinguished from that in the typical case book, is the statement of the issue and the positions of the parties without giving answers; only occasionally is the decision of the arbitrator included. It is wisely recognized that there is no "correct" answer and Dunlop has included a series of questions following each case which may prove useful in pointing up discussion of relevant elements in the issues at hand. The limitation of the presentation is the inability in a small book to make the whole step toward building complete case situations. An issue in collective bargaining or under an agreement is nearly always inextricably tied in with a total relationship. One needs to know the nature of this relationship, including the whole contract, the company and union structures, the personalities, the industry and the community. These things, of course, cannot be put into a text or case book. The teacher will be well advised to find some local cases about which it will be possible for the student to acquire a familiarity with the total situation so that the realities and complexities of the issues studied can be observed.

If the presentation of background and factual materials is a little on the skimpy side, nevertheless, Dunlop's cases will provide a basis for wholesome discussion of the common issues in collective bargaining. The good instructor must always enrich his course by making it as realistic as possible with his own materials.

VERNON H. JENSEN

Cornell University

Job Horizons. By LLOYD G. REYNOLDS and JOSEPH SHISTER. (New York: Harper & Bros. 1949. Pp. x, 102. \$2.25.)

The Labor and Management Center at Yale University recently completed a two-year study of the labor market in a "medium-sized New England manufacturing center." Attention was focussed on labor mobility, wage structure, employer personnel practices, and worker attitudes. Interviews were conducted with workers, management officials, and union leaders, and extensive statistical data were collected. *Job Horizons* is a preliminary report summarizing the Center's findings on one phase of the project. The labor market

in this primarily non-union community is viewed through the eyes of the manual workers themselves. The report describes the circumstances under which they enter the labor market in the first instance; how they go about finding jobs; what they like and dislike about their work; what they do when dissatisfied with their present jobs; and what conception they have of economic opportunity.

The picture which emerges is highly instructive. Typically the manual worker first enters the labor market because of a financial crisis in his family or because he is anxious to leave school and be "out on his own." In either case, he is in a mood to welcome almost any job and is not likely to make comparisons of alternative opportunities. There are additional reasons why he is inclined to accept the first job he finds. He feels that jobs are scarce and valuable; he often lacks any definite conception of what he is looking for; and he is strongly influenced by the suggestions of his parents. Formal procedures for obtaining jobs, such as the use of the State Employment Service, are not so important as "tips" from relatives and friends or random application at nearby plants. When the worker decides that he wishes to make a change, he does not immediately quit, nor does he set out systematically to find a more desirable job. Instead, he merely becomes more receptive to rumors of openings and offers. If nothing turns up, he eventually quits and re-enters the labor market. Again he makes use of informal and "political" job-hunting techniques, and again he is likely to accept the first offer received. His knowledge of labor-market conditions is sketchy and inaccurate throughout.

Clearly, these findings do not square with the ideal theory of the labor market, but Reynolds and Shister do not regard this as any sign of "irrational" behavior. "The worker's behavior must be understood as a response to the situation in which *the worker* believes he is placed," they point out, "not to the situation as it might be conceived by an omniscient and scientifically-trained observer. . . . Worker behavior is in general a rational adaptation to the circumstances *as the worker sees them.*"

The section on "Factors in Job Satisfaction" is rather superficial, and the statistical analysis of "Movement up the Occupational Ladder" is inconclusive for the reason that only workers currently performing manual labor were interviewed. On the other hand, "The Worker's View of Job Opportunity" is described with feeling and insight. As the worker grows older, wiser, and sadder, he "learns to set bounds to his occupational ambitions. If in his early years he has any illusions about a rapid rise to independence and wealth, these hopes soon wither before the realities of industrial employment. He learns to limit his aspirations to modest and attainable objectives: a change from the second shift to the first shift, from hourly rated work to incentive work, from a job in labor grade 9 to a job in labor grade 8, or even to another job in the same labor grade which is more desirable for one reason or another. Beyond this most workers have little expectation of going."

ARTHUR M. ROSS

University of California, Berkeley

Beyond Collective Bargaining. By ALEXANDER R. HERON. (Stanford: Stanford University Press. 1948. Pp. vii, 214. \$2.75.)

It is customary for most "practical men" involved in collective bargaining—on both sides of the fence—to cast labor problems within the restricted contours of their immediate environment. Here and there, however, we find a "practitioner" whose vision encompasses far broader areas. Certainly Mr. Heron must be counted among these select few.

A managerial representative, the author nevertheless sees collective bargaining issues in their total social perspective. Within this framework he discusses a variety of diversified topics: the scope of collective bargaining, managerial prerogatives, the rôle of government in labor-management relations, the unionization of foremen, and so on. While the book lacks a unifying substantive theme (unless it be the rather vague theme of "labor in general"), the approach is undeniably "objective" throughout. Which is precisely why the author succeeds in getting at the roots of each issue. And the analysis is expressed in language which avoids the sophisticated jargon of the researcher.

Mr. Heron's ideas, distilled from a welter of experience with the hard facts of reality, deserve careful study by the academicians. He provides some highly constructive leads which the professionals could explore with profit for purposes of refinement. The author's treatment of the "managerial prerogatives" issue is particularly noteworthy in this respect.

While the academic people will find the book a useful source of research leads, the other members of the industrial relations fraternity will encounter "workable solutions" for problems with which they frequently have to grapple.

JOSEPH SHISTER

University of Buffalo

Labour-Management Co-operation in United States War Production. Studies and Reports, New Series No. 6. (Montreal: International Labour Office. 1948. Pp. vi, 405. \$2.25.)

This study is an account of the organizational arrangements through which the United States government enlisted the counsel and cooperation of management and labor for the war effort of industry. It was prepared at the suggestion of the chairman of the War Manpower Commission to supplement a similar report which the ILO had published during the war on British Joint Production Machinery (Studies and Reports, Series A, No. 43).

The study is based throughout on primary material (laws, executive and administrative orders, manuals and field instructions, reports of the respective agencies, official and private files, interviews, and personal observations). At the time it was made, source material in digested form was hardly available. Since then—in fact, before the study was published—governmental accounts of the wartime industrial effort have begun to appear and are continuing to do so, covering the vast subject in all its phases with great completeness. Foremost among them was Industrial Mobilization for War: His-

tory of the War Production Board and Predecessor Agencies 1940-1945, issued by the Bureau of Demobilization; Vol. I, Program and Administration, 1,000 pages appeared in print; Vol. II, Materials and Production, 2,500 pages, in typescript. In addition, over forty special studies in a series, "Historical Reports on War Administration," have appeared, each treating of a particular industry or a particular problem. (Nos. 23 and 32 deal with Labor Policy; and Nos. 24 and 34 with Industry and Labor Advisory Committees.) Nevertheless, the ILO study will remain very valuable as a first-hand, comprehensive, and not too voluminous account of a specially significant side of the story.

After a brief historical background, in which the succession of Boards and Commissions during the several phases of the war is reviewed, the subject is treated chiefly in two parts: Labour-Management Consultation in Voluntary Manpower Mobilization, and Labour-Management Participation in War Production Planning. The first of these devotes separate chapters to the organization on the national, regional, state, and area level, and in particular to the appeal machinery from the lowest to the highest level "permitting both employers and workers to appeal from any apparent injustices in the application of the programme" (p. 129). In the part on war production, maximum space is given to the government-promoted but voluntary plant committees operated in various degrees of "jointness" by management and labor representatives to improve production methods, reduce waste, combat absenteeism, and build up morale in general. Another part treats more briefly of the rôle of management and labor in "other governmental agencies," notably the War Labor Board which is discussed as the only instance of a tri-partite board with policy-making rather than merely advisory functions. A concluding chapter (reprinted from the *International Labour Review*, October 1945) compares wartime labor-management consultation in the United States and Great Britain. Among other matters, it notes some interesting differences deriving from the more securely established trade unionism in Britain which permitted the use of the regular collective bargaining machinery for the joint solution of manpower and production problems.

This insecurity in the United States of established relations between management and labor runs implicitly through much of this account of "labor-management cooperation," in the form of an ever-present mutual suspicion that the other side might use the emergency arrangements to further its own ends: management anxious that the unions might expect to be consulted about production problems in the reconversion period, or even in peacetime, and the unions jealously guarding against plant committees developing into "company unions" encroaching on their collective bargaining sphere. These committees must, however, often have answered a real need; for, according to a survey of 3,200 wartime labor-management committees, several hundred were found to have continued and were successfully functioning as a part of peacetime plant operation (36th Annual Report of the Secretary of Labor, 1948, p. 61).

The book makes somewhat heavy reading. The dryness inherent in the

subject is hardly diminished by omission of all names of either persons or even particular industries in contrast to the above-mentioned governmental accounts which abound in lively personalities and incidents. Yet, in the end all this matter of fact detail on boards, committees and commissions forming and dissolving and reorganizing, and their often humble and often futile day-to-day work, adds up to the tremendous thing which it was: democracy with its trial-and-error methods, departing as little as possible from its ideal of voluntarism, successfully bending the multi-limbed, multi-headed body of the free-enterprise system to the single-souled war effort of the nation.

JOHN V. SPIELMANS

Marquette University

Industrial Relations in New Zealand. By A. E. C. HARE. (Wellington: Whitcombe and Tombs, Ltd. 1946. Pp. 375. 10s., 6d.)

For almost a half-century now, significant experiments in the field of compulsory industrial arbitration have been quietly under way in Australia and New Zealand. In the latter country a separate Department of Labour was established as early as 1898 when only few countries of the world had recognized the need of establishing separate departments to legislate and control with respect to the social problems of industry. Shortly thereafter New Zealand passed the Labour Disputes Investigation Act (1913), and together with the Industrial Conciliation and Arbitration Act of 1925, this legislation still stands as the central instrument for determining wages and settling labor disputes throughout the islands.

Anderson and Foenander have heretofore published basic analyses of the industrial arbitration systems of Australia, but Professor Hare's work constitutes the first comprehensive study yet made of the New Zealand system. For this accomplishment, he deserves considerable credit.

The study is presented in three parts. Part I suggests the general problem of industrial unrest in New Zealand by examining the causes of industrial unrest, and suggesting certain remedies. Chief causes of unrest are found to be discontent arising from work, wages, and ignorance of the worker's role and of his employer's problems. In overcoming—or at least in lessening—these discontents, both the state and the management are found to play important roles.

Part II presents a description of industrial organization in New Zealand. This is introduced by a brief picture of the development of industry and population followed by a digest of laws relating to wages, hours, factory conditions, trade unions, employer organizations, methods of settling industrial disputes, and strikes.

In Part III, the author suggests the nature and extent of proposed changes of law and practice within the field of industrial relations which he believes are designed to overcome many of the shortcomings of present regulations and practice. Among these are recommended a new Factories Act with more specific requirements and wider scope than the present law provides, better training for management foremen, executives, and personnel offi-

cers, a stabilization of employment by reduction of seasonal unemployment and the application of the merit-rating principle to Social Security taxes, better methods of distributing the proceeds of industry through profit-sharing and other such schemes, and certain changes in the organizations of both employers and unions.

The author finds no serious difficulties involved in the operation of the Industrial Conciliation and Arbitration Act, but in the interest of promoting its influence and effectiveness he suggests that changes should be made so as to "encourage the development of negotiations outside the formalities laid down" (by the Act), and to "devise means for bringing about active consultation on common interests" (p. 323).

A helpful Technical Appendix on the distribution of personal income concludes the presentation. Colin Clark has done original and basic work on the subject of income distribution in Australia, but heretofore very little of significance has appeared on this subject in New Zealand where average real incomes are probably higher than they are anywhere else in the world.

My chief criticism of this work, aside from errors (*cf.* p. 105, p. 152) and questions concerning statements of fact and conclusion (*cf.* p. 79, 81-82, 96, 198) lies with respect to what the study might have done rather than what is done. There is very little analysis to be found in the work, for the study is descriptive only. This seems to be a serious shortcoming, since other nations look upon the New Zealand experiment with considerable interest in the hope of finding a sensible democratic answer not only to the problem of strikes but also to the basic question of what is the relationship between wages and prices in a country where the workers' earnings are set by a court of arbitration.

It is to be hoped that some scholar will continue the analysis for which Professor Hare has laid a good foundation in order that more light may be thrown upon this question of the trend of real earnings under compulsory arbitration, even in a small country like New Zealand.

PAUL A. DODD

University of California

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NOTES

SIXTY-SECOND ANNUAL MEETING OF THE AMERICAN ECONOMIC ASSOCIATION

Commodore Hotel, New York City, December 27-30, 1949

Preliminary Announcement of the Program

The central theme of most of the sessions of the 1949 program is "A Stocktaking of American Capitalism." Most of the characteristics of the current international scene and not a few of the salient features of our domestic situation arise from the international struggle for power and, underlying this struggle, the pervasive contest of opposing ideologies. Economists are concerned with both of these trials of strength, but with the latter more directly. For economists in America, it would seem to be both their patriotic duty and their obligation as social scientists to make a concerted attempt to appraise the operation of our capitalist or private enterprise system. This theme recommended itself for the present meetings of the Association not only because of its overriding importance, but also because judicious assessment requires the contributions of the manifold fields embraced within the broad discipline of economics.

Not all of these fields are represented in the present program; indeed, it would probably be bootless to attempt a really exhaustive presentation. On the other hand, completely to exclude certain timely areas of discussion because they were not directly oriented to the main theme would also be unwise. Sessions closely oriented to the Stocktaking of American Capitalism begin with the evening meeting on Tuesday and extend through the general appraisal scheduled for Friday morning. Sessions less closely gauged to the central theme occupy the afternoon preceding and following these limits. One session has been scheduled for each of the three evenings and for the last day, morning and afternoon; otherwise, three sessions will take place each morning and afternoon. In all, there are twenty sessions, with several additional breakfast and luncheon meetings.

The Executive Committee of the American Economic Association will meet at 9 A.M. on Tuesday, December 27, and remain in session throughout the forenoon and the luncheon hour. The meeting of the new Executive Committee, which retiring members of the old committee are invited to attend, will begin with luncheon at 12:30 P.M. on Friday, December 30, and continue in the afternoon as long as necessary.

Tuesday, December 27

2:00 P.M. PROBLEMS OF AN ADVANCED DEFENSE ECONOMY

Chairman: DONALD H. WALLACE, Princeton University

Papers: Production for Defense

CHARLES J. HITCHE, The Rand Corporation

Price Controls and Rationing

Circumstances Requiring Price Controls and Rationing

BERNARD F. HALEY, Stanford University

Monetary and Fiscal Aspects

RICHARD A. MUSGRAVE, University of Michigan

Labor Problems

LLOYD G. REYNOLDS, Yale University

Discussion: WILLIAM HABER, University of Michigan

HERBERT STEIN, Committee for Economic Development

ECONOMIC POLICY IN OCCUPIED GERMANY

Chairman: CALVIN B. HOOVER, Duke University

Papers: The Effect of Trade and Industrial Efficiency upon German
Agriculture

THEODORE W. SCHULTZ, University of Chicago

THE AMERICAN ECONOMIC REVIEW

The Role of Fiscal-Monetary Policy in German Economic Recovery

WALTER W. HELLER, University of Minnesota

Fitting Germany into Western European and World Trade

HORST MENDERSHAUSEN, Federal Reserve Bank of New York

Discussion: GERHARD COLM, Council of Economic Advisers

LLOYD A. METZLER, University of Chicago

PHILIP M. RAUP, University of Wisconsin

4:00 P.M. POPULATION AND RESOURCES: Joint session with the American Statistical Association

Chairman: ALVA MYRDAL, Social Affairs Department, United Nations

Papers: World's Population at the End of the 20th Century

FRANK NOTESTEIN, Princeton University

World's Food and Agricultural Potential

P. V. CARDON, U. S. Department of Agriculture

Discussion: JOSEPH S. DAVIS, Stanford University

D. GALE JOHNSON, University of Chicago

8:00 P.M. WHAT PLANNING AND HOW MUCH IS COMPATIBLE WITH A MARKET ECONOMY? RECENT EUROPEAN EXPERIENCE

Chairman: SENATOR PAUL H. DOUGLAS, Washington, D.C.

Addresses: SIR HENRY CLAY, Oxford University

ERIK LINDAHL, University of Uppsala

Discussion: Informal discussion from the floor

Wednesday, December 28

10:00 A.M. U.S. FOREIGN INVESTMENT IN UNDER-DEVELOPED AREAS

Chairman: JAMES W. ANGELL, Columbia University

Papers: The Distribution of Gains between Investing and Borrowing Countries

H. W. SINGER, Department of Economic Affairs, United Nations

Tax, Treaty, Guaranty and Other Methods of Encouraging Private U.S. Foreign Investment

WILLIAM A. BROWN, JR., Brookings Institution

Impact of U.S. Foreign Investments on our own Economy

WALTER S. SALANT, Council of Economic Advisers

Discussion: LEROY D. STINEBOWER, Department of State

B. K. MADAN, International Monetary Fund

BRUNO FOA, New York

STABILIZING THE ECONOMY: THE EMPLOYMENT ACT OF 1946 IN OPERATION

Chairman: E. A. GOLDENWEISER, Institute for Advanced Study

Papers: The Council of Economic Advisers: Political Economy on Trial

PAUL J. STRAYER, Princeton University

Economic Requisites for Achieving Economic Stability

GEORGE LELAND BACH, Carnegie Institute of Technology

Political and Administrative Requisites for Achieving Economic Stability

ROY BLOUGH, University of Chicago

Discussion: BEARDSLEY RUMEL, Jewelry Research Foundation

ARTHUR SMITHIES, Harvard University

Another, to be announced

CAPITALISM AND MONOPOLISTIC COMPETITION: I. THE THEORY OF OLIGOPOLY

Chairman: MORRIS A. COPELAND, Cornell University

Papers: Oligopoly by Merger
 GEORGE J. STIGLER, Columbia University
 Technological Economies of Size *versus* "Artificial Exclusion"
 as Sources of Oligopoly Power
 JOE S. BAIN, University of California, Berkeley
 Sales Techniques and Ignorance as Sources of Oligopoly Power
 TIBOR SCITOVSKY, Stanford University
 Collusion and its Limits under Oligopoly
 WILLIAM FELLNER, University of California, Berkeley

Discussion: The authors of these papers and members of the Association

12:00 M. THE UNITED STATES AND FOREIGN INVESTMENT: Joint session with the American Finance Association

Chairmen: NEIL JACOBY, University of California, Los Angeles
 HOWARD S. ELLIS, University of California, Berkeley

2:00 P.M. CAPITALISM AND MONOPOLISTIC COMPETITION: II. CAN THE AMERICAN ECONOMY BE MADE MORE COMPETITIVE?

Chairman: CORWIN D. EDWARDS, Federal Trade Commission

Papers: The Significance of Oligopoly in the American Economy
 CLAIR WILCOX, Swarthmore College
 The Influence of Size of Firms on the Functioning of the Economy
 A. D. H. KAPLAN, Brookings Institution
 Production Heterogeneity and Public Policy
 E. H. CHAMBERLIN, Harvard University
 The Orientation of Anti-Trust Policy
 J. M. CLARK, Columbia University

Discussion: The authors of these papers and members of the Association

TRANSPORTATION IN CAPITALIST AND SOCIALIZED ECONOMIES

Chairman: SIDNEY L. MILLER, University of Pennsylvania

Papers: An Appraisal of Nationalized Transport in Great Britain
 G. LLOYD WILSON, University of Pennsylvania
 E. GROSVENOR FLOWMAN, Vice President, United States Steel Corporation
 The Reorganization of Transport Regulation in the United States
 CHARLES DEARING, Brookings Institution

Discussion: VIRGIL D. COVER, Syracuse University
 T. W. VAN METRE, Columbia University
 H. W. TORGERSON, Northwestern University
 I. L. SHARFMAN, University of Michigan
 H. K. SNELL, University of Texas

4:00 P.M. PRIVATE ENTERPRISE AND INEQUALITY OF INCOME: Joint session with the American Statistical Association

Chairman: HILDEGARDE KNEELAND, Bureau of the Budget

Papers: Statistical Information on the Distribution of Income by Size
 SELMA GOLDSMITH, U.S. Department of Commerce
 Income Distribution as a Measure of Economic Welfare
 HAZEL KYRK, University of Chicago

Evaluation of Alternative Techniques for Promoting Equality
in a Capitalist Society

A. G. B. FISHER, International Monetary Fund

Discussion: To be announced

8:00 P.M. PRESIDENTIAL ADDRESSES: Joint session with the American Statistical Association

Thursday, December 29

8:30 A.M. PROBLEMS OF TEACHING AND RESEARCH IN LATIN AMERICAN ECONOMIES (Breakfast Session)

Chairman: To be announced

(For suggestions and enquiries, address RICHARD F. BEHRENDT, Colgate University, Hamilton, N.Y.)

10:00 A.M. TAX STRUCTURE AND PRIVATE ENTERPRISE

Chairman: To be announced

Papers: Capital Gains and Losses

LAWRENCE H. SELTZER, Wayne University

How Should Wealth Transfers be Taxed?

E. GORDON KEITH, University of Pennsylvania

Efficiency vs. Equity Issues in Federal Tax Policy

EARL R. ROLPH, University of California, Berkeley

Discussion: O. H. BROWNLEE, University of Chicago

LOUIS SHERE, University of Indiana

RICHARD E. SLITOR, U. S. Treasury

CAPITALISM AND ECONOMIC PROGRESS: Joint session with the Economic History Association

Chairman: LOUIS M. HACKER, Columbia University

Papers: Appraisal of American Economic Progress

HAROLD F. WILLIAMSON, Northwestern University

Innovation in American Progress

GEORGE W. TERBORGH, Machinery and Allied Products Institute

Capital Accumulation and Progress

EDGAR M. HOOVER, Council of Economic Advisers

Discussion: YALE BROZEN, Northwestern University

DAVID MC. WRIGHT, University of Virginia

CAPITALISM, ECONOMIC STABILITY, AND PRIMARY PRODUCERS:
Joint session with the American Farm Economic Association

Chairman: THEODORE W. SCHULTZ, University of Chicago

Papers: The Effects of Economic Instability on Primary Producers

GEOFFREY MOORE, National Bureau of Economic Research

The Case for Supplementary Measures Dealing Directly with
Income and Price Instability that Confront Primary Pro-
ducers

D. GALE JOHNSON, University of Chicago

Another paper to be announced

Discussion: FRED V. WAUGH, Council of Economic Advisers

Others to be announced

2:00 P.M. LINEAR MODELS OF PRODUCTION AND ALLOCATION: Joint session with the Econometric Society

Chairman: SOLOMON FABRICANT, National Bureau of Economic Research

Papers: An Evaluation of the Inter-Industry Relations Approach and its Generalizations

N. GEORGESCU-ROEGEN, Vanderbilt University

Efficient Allocation of Resources

T. C. KOOPMANS, Cowles Commission

Discussion: GEORGE J. STIGLER, Columbia University
Others to be announced

CAN CAPITALISM DISPENSE WITH FREE LABOR MARKETS?:

Joint session with the Industrial Relations Research Association

Chairman: DAVID A. MCCABE, Princeton University

Papers: Character and Consequences of Institutional Controls of Labor Markets

CLARK KERR, University of California

The Implications of Collective Bargaining for Prices and Profits

JOSEPH SHISTER, University of Buffalo

Another paper to be announced

Discussion: PAUL FISHER, Dartmouth College
CHARLES C. KILLINGSWORTH, Michigan State College
FRANK C. PIERSON, Swarthmore College

4:00 P.M. CAPITALISM AND ECONOMIC STABILITY: DIRECT VS. MONETARY FISCAL CONTROLS: Joint session with the American Finance Association

5:00 P.M. ANNUAL BUSINESS MEETING, including award of the John Bates Clark Medal

8:00 P.M. ECONOMIC POWER BLOCS AND AMERICAN CAPITALISM: Joint session with the American Political Science Association, the American Sociological Society, and the Industrial Relations Research Association

Chairman: J. DOUGLAS BROWN, Princeton University

Papers: Interest Blocs and Social Control

HERBERT BLUMER, Department of Sociology, University of Chicago

Title to be announced

MERLE FAINSOD, Department of Government, Harvard University

Power Blocs and the Formation and Content of Economic Decisions

JOSEPH J. SPENGLER, Department of Economics, Duke University

Discussion: DON PRICE, Public Administration Clearing House
HANS SPEIER, Rand Corporation
NEIL W. CHAMBERLAIN, Yale University

Friday, December 30

10:00 A.M. AMERICAN CAPITALISM: WHERE ARE WE GOING?

Chairman: FRANK H. KNIGHT, University of Chicago

Papers: Title to be announced

B. S. KIERSTEAD, McGill University

Title to be announced

JOSEPH SCHUMPETER, Harvard University

Some Basic Economic Trends

SUMNER H. SLICHTER, Harvard University

Discussion: There will be no prepared comments, but discussion from the floor will be invited.

2:00 P.M. ROUND TABLE ON THE TEACHING OF ELEMENTARY ECONOMICS

Chairman: HORACE TAYLOR, Columbia University

Papers: The National Income Approach

Author to be announced

An Alternative Approach: the Interdepartmental Introductory Course

Author to be announced

At a time subsequently to be announced, the group interested in Public Utilities will meet informally to hear and discuss the following papers:

Some Economic Objectives of Public Utility Regulation

C. EMERY TROXEL, Wayne University

Federal Regulation of the Natural Gas Industry

BURTON N. BEELING, National Security Resources Board

Necrology

Charles A. Hales, June 19, 1949.

Charles R. Metzger, May 23, 1949.

Edward Carroll Sibley, January 6, 1949.

Appointments and Resignations

Lewis W. Adams has been promoted to professor of economics and dean of the School of Commerce and Administration at Washington and Lee University.

Kenneth J. Arrow, formerly of the University of Chicago, has been appointed acting assistant professor of economics at Stanford University.

Robert D. Ayars has been granted a leave of absence from the School of Business Administration, University of Pittsburgh, for the coming academic year.

Henry G. Baker, formerly director of the Bureau of Business Research, Oklahoma City University, is now associate professor of marketing at the University of Georgia.

Paul A. Baran, formerly of the Federal Reserve Bank of New York, has been appointed associate professor of economics at Stanford University.

William J. Baumol has been appointed assistant professor of economics at Princeton University.

Jack N. Behrman has been appointed instructor in economics at Princeton University.

Walter J. Beidatsch, formerly chief economist of the Federal Power Commission, has been appointed professor of transportation economics and public utilities at the Alabama Polytechnic Institute.

David C. Belcher has joined the staff of the College of Commerce and Business Administration, University of Illinois, as assistant professor.

Maurice C. Benewitz, of Brown University, has been appointed instructor in economics at the University of Minnesota.

Claude L. Benner has been elected president of the Continental American Life Insurance Company.

Edward G. Bennion, head of the Economics Division of Standard Oil Company of New Jersey, has been appointed lecturer in economics in the Graduate School of Business, Columbia University.

Homer A. Black has been promoted to the rank of assistant professor in the College of Business Administration, University of Georgia.

Theodore H. Boggs, emeritus professor of economics at Stanford University, has retired from his post as visiting professor of economics at the University of Washington.

E. R. Bollinger has resigned from Emory University to accept an appointment as associate professor in the Industrial Management Division, Georgia School of Technology.

James C. Bonbright has been given leave from the Graduate School of Business, Columbia University, for the current academic year to conduct a study under the auspices of the Columbia University Council for Research in the Social Sciences.

Harold Borgen has been appointed instructor in economics in the College of Business Administration, University of Nebraska.

Arthur J. Brown, of the University of Leeds, has been appointed visiting professor in the European Institute, Columbia University, for the Spring session, 1950.

Horace B. Brown, Jr., dean of the University of Mississippi School of Commerce and Business Administration, has been appointed dean of the University of Oklahoma College of Business Administration.

Joe E. Brown, formerly instructor in economics at the University of Texas, has been appointed associate professor of economics, University of Oklahoma.

Yale Brozen has been granted a leave of absence from Northwestern University to pursue a special study and survey.

Leslie J. Buchan, dean of the College of Commerce and Business Administration at Tulane University, has been appointed dean of the School of Business and Public Administration, Washington University, St. Louis.

Henry T. Buechel has been promoted to associate professor of economics at the University of Washington.

J. V. Burkhead has been promoted to the rank of associate professor in the department of economics, Syracuse University.

Arthur F. Burns, of Columbia University, has been granted leave of absence for the academic year 1949-50 for research on business cycles.

William R. Busch has joined the faculty of the University of Minnesota as instructor in economics.

Arthur P. Butler has joined the staff of the department of economics, University of Buffalo.

George J. Cady, of Northwestern University, has accepted a professorship at Redlands University.

Lloyd Callow has been appointed instructor in accounting at the University of Chicago.

Alfred E. Chalk, who has held a teaching fellowship in economics at the University of Texas for two years, has returned to his position as associate professor of economics at Texas A. & M. College.

I-Nien Chien has joined the faculty of the University of Minnesota as instructor in economics.

J. M. Clark, of Columbia University, was awarded the degree of Doctor of Laws by the New School for Social Research in May, 1949.

Clay L. Cochran has been promoted to assistant professor of economics at the University of Oklahoma.

Almand R. Coleman has been promoted to chairman of the department of accounting at Washington and Lee University.

Joseph W. Conard has been appointed assistant professor of economics at Swarthmore College effective in the fall of 1950.

John R. Craf has been appointed professor of economics and head of the department of economics-commerce at the University of Louisville.

Daniel Creamer, of the National Bureau of Economic Research, is engaged in a research project under the joint auspices of the Social Science Research Center of the University of Puerto Rico, the Puerto Rico Industrial Development Company, and the Office of Statistics of the Puerto Rico Bureau of the Budget.

James Crutchfield, of the University of California, has been appointed acting assistant professor of economics at the University of Washington.

Leon A. Dale has been appointed assistant professor of economics at the University of Florida.

Clyde E. Dankert has been appointed chairman of the department of economics at Dartmouth College.

A. J. Danks, of New Zealand, is visiting lecturer in economics at the University of Washington in the fall term.

Paul G. Darling, of Rutgers University, is now assistant professor of economics at Carnegie Institute of Technology.

Joel P. Dean has been granted leave from Columbia University during the current academic year to conduct research for the Committee for Economic Development.

Merrill De Voe, of the University of Kentucky, has been appointed visiting associate professor at the University of Southern California.

Jurgen Dich, counselor to the Ministries of Housing, Social Affairs, and Labor in Denmark and a member of the Danish delegation to the Economic and Social Council of the United Nations, is a visiting professor at the University of Wisconsin during the current academic year.

James A. Donahue, Jr., is assistant professor of economics at the University of Vermont.

Herbert Dorn has been promoted from lecturer and research professor to professor of economics at the University of Delaware.

Thomas W. Douglas, of the University of Virginia, has resigned to take a position with the Ice Marketing Institute of the National Association of Ice Industries, in Washington, D.C.

Edward A. Duddy, has become professor emeritus, University of Chicago, after having served on the faculty of the School of Business twenty-nine years.

Samuel W. Dunn, of the School of Business Administration, University of Pittsburgh, has been granted a leave of absence for the current academic year.

Manuel Eber has been appointed instructor in economics, Washington University, St. Louis.

Robert S. Eckley has been appointed assistant professor of economics at the University of Kansas.

George H. Ellis has been appointed instructor in economics and business administration at the University of Maine.

Howard S. Ellis, professor of economics on leave of absence from the University of California, is directing a study of the long-run implications of the European Recovery Program for the Council on Foreign Relations. He will be part-time visiting professor of economics at Columbia University in the Winter session.

Paul T. Ellsworth, of the University of Wisconsin, has been granted a leave of absence for the first semester to teach at the University of California.

Henry J. Engler is now assistant professor of management at Loyola University, New Orleans.

M. Erselcuk has been promoted from assistant professor to associate professor of economics at Purdue University.

William J. Fellner, of the University of California, is on sabbatical leave in the fall semester to do research work in Europe.

Allen R. Ferguson, of Harvard University, has been appointed assistant professor of economics at the University of Virginia.

Peter A. Firmin has been appointed assistant professor of economics in the College of Commerce and Business Administration, Tulane University.

William C. Flinn has resigned from Emory University to accept a position in the Industrial Management Division of the Georgia School of Technology.

Laurence A. Fouraker has resigned as instructor in economics at the University of Wyoming to continue graduate work.

Henry J. Frank has been appointed part-time instructor in economics at New Jersey College for Women.

John A. Frechtling has been appointed instructor in economics at Swarthmore College.

Robert W. French, of the University of Texas, has been appointed dean of the College of Commerce and Business Administration, Tulane University.

Joseph F. Fulton, formerly of New York University, is an instructor in economics at Michigan State College.

Nicholas Georgescu, formerly of the University of Bucharest and more recently of Harvard University, has accepted a position as professor of economics at Vanderbilt University.

Franklin W. Gilchrist has been promoted to associate professor of marketing in the School of Commerce, University of Southern California.

Curry W. Gillmore has been appointed instructor in political economy at the Johns Hopkins University.

Morris D. Glickfeld, of the University of California, has accepted an appointment as acting assistant professor of economics at the University of Washington.

Carter Goodrich, of Columbia University, served as program director and chairman of the United Nations Scientific Conference on the Conservation and Utilization of Resources held at Lake Success August 17 to September 6.

Howard S. Gordan has been appointed associate professor of business administration at the School of Commerce and Finance, Saint Louis University.

Donald F. Gordon has been appointed instructor in economics at Princeton University.

Amor Gosfield has resigned as instructor in economics at the University of Pennsylvania to accept an appointment at the University of Puerto Rico as director of a special study of the Puerto Rican economy.

Benjamin Graham, president of Graham-Newman Corporation, has joined the faculty of the Graduate School of Business, Columbia University, as an associate.

James L. Green has resigned as instructor in economics at the University of Minnesota to join the faculty of Southern Methodist University as assistant professor of economics.

Joseph A. Green, Jr., of the University of Virginia, has been appointed head of the department of economics at Mississippi-Southern College.

H. Peter Greenwood, of the University of Illinois, has been appointed assistant professor of finance in the School of Commerce of the University of Southern California.

Morton Grossman has joined the staff of the department of economics, Washington State College.

Sarah M. Guy has been appointed instructor in economics at the University of Minnesota.

Louis M. Hacker, of Columbia College, has been appointed director of the School of General Studies, Columbia University.

Jean C. Halterman has resigned as instructor in business organization and management in the College of Business Administration, University of Nebraska.

David B. Hamilton, Jr., has resigned from the University of Texas to accept an appointment as assistant professor of economics, University of New Mexico.

William A. Hance, formerly assistant dean of Columbia College, has been appointed associate professor of economic geography in the Graduate School of Business, Columbia University.

Glover D. Hancock has retired as dean of the School of Commerce and Administration at Washington and Lee University.

Arnold C. Harberger has been appointed assistant professor of political economy at Johns Hopkins University.

C. Lowell Harriss has been granted a year's leave of absence from Columbia College to lecture at Stanford University.

Richard B. Heflebower, of the Brookings Institution, has been appointed professor of economics at Northwestern University.

Vern G. Hefte has resigned as assistant professor of accounting in the College of Business Administration, University of Tennessee.

John Heisler has been appointed instructor in economics in the College of Commerce, University of Kentucky.

Bert G. Hickman has been appointed instructor in economics at Stanford University.

A. J. Hill has been appointed instructor in accounting at Alabama Polytechnic Institute.

Forest G. Hill, of Columbia University, has been appointed lecturer in economics at the University of California.

Richard M. Hill has been appointed instructor in economics at Purdue University.

Franklin L. Ho has been appointed visiting professor in the East Asian Institute at Columbia University.

Werner Hochwald has been promoted to associate professor of economics and acting head of the department of economics at Washington University, St. Louis.

Thomas W. Holland, on leave of absence from the Department of State, has been reappointed visiting professor of economics in the School of Business Administration, University of Miami.

J. Richard Huber, acting executive officer of the department of economics at the University of Washington, has been promoted from associate professor to professor of economics.

Harold Hughes has resigned as professor of economics from the College of Commerce and Business Administration, Tulane University.

Emily H. Huntington, of the University of California, is on sabbatical leave for the fall semester.

John Ise, of the University of Kansas, taught in Denmark during the summer.

John E. Jeuck, assistant professor of marketing, has been appointed assistant director of the Executive Program of the School of Business, University of Chicago.

Lewis K. Johnson has been named chairman of the department of commerce at Washington and Lee University.

Thomas F. Johnson, of the University of Virginia, has accepted a position in the Sugar Division of the Production and Marketing Administration, U. S. Department of Agriculture.

Eliot Jones, of Stanford University, was visiting professor of economics at the University of Washington during the spring quarter of 1949.

James R. Kay, of the University of Virginia, has been appointed assistant professor in the School of Business Administration, University of Texas.

Eugene Kelley, of the Babson Institute, has been appointed assistant professor of business administration at Clark University.

David M. Kerley, of the University of Virginia, has been appointed assistant professor of statistics at Pennsylvania State College.

Frederick W. Killian, of Clark University, is on leave of absence in the current semester for further study and research at Yale University.

Charles C. Killingsworth has been promoted to professor of economics and head of the department of economics at Michigan State College.

Charles P. Kindleberger, of the Massachusetts Institute of Technology, has been appointed visiting lecturer in the European Institute, Columbia University, for the current academic year.

Paul Kircher has been promoted to assistant professor of accounting at the University of Chicago.

Joseph M. Klamon has been appointed professor of commerce in the School of Business and Public Administration at Washington University, St. Louis.

William H. Knowles has resigned from Humboldt College to accept a position as assistant professor of economics at Michigan State College.

Clifton H. Kreps, Jr., has resigned as assistant professor of economics at Denison University to accept an appointment as research economist with the Federal Reserve Bank of New York.

Paul G. LaGrone has been appointed assistant professor of accounting and finance at Alabama Polytechnic Institute.

H. K. L'Ecuyer has been appointed visiting associate professor of industrial management at the University of Kansas.

Leland C. Lehman, of Ohio State University, has been appointed assistant professor of economics at Denison University.

John K. Lewis has been appointed instructor in economics at Washington University, St. Louis.

Irma A. Linse, of Indiana University, has joined the faculty of the University of Minnesota as instructor in economics.

Samuel M. Loescher has been appointed instructor in economics at Indiana University.

Kullervo Louhi has been promoted to assistant professor of accounting at the University of Chicago.

Donald A. Ludwig has been appointed instructor in economics at Clemson College.

Erik Lundberg, professor of economics at the University of Stockholm and director of the Swedish Institute for Research in Economic Fluctuations, will be visiting professor of economics at the University of Washington in the spring of 1950.

Rodney F. Luther has rejoined the faculty of the School of Business Administration of the University of Minnesota as lecturer in economics and marketing.

George Malanos has been appointed assistant professor of economics in the School of Business Administration of the University of Miami.

Theodore F. Marburg, of Princeton University, is on leave during the first term of the current academic year to complete a research study.

Dale C. Marcoux, on leave from Washburn University during the current academic year, is lecturer in economics at the University of Minnesota.

Howard D. Marshall has been appointed instructor in economics at Vassar College.

Kenneth M. McCaffree, of the University of Chicago, has joined the department of economics of the University of Washington as acting assistant professor.

Donald McClelland, of Princeton University, has been appointed assistant professor of economics at the University of Buffalo.

John A. McClure, of Rutgers University, has been appointed associate professor of management in the School of Commerce of the University of Southern California.

Robert B. McGehee, of Emory University, has accepted a position with the Tennessee Valley Authority.

George W. McKinney was recently appointed associate economist of the Federal Reserve Bank of Richmond.

James P. McMahon has been promoted from lecturer to associate professor of finance in the School of Business Administration of the University of Miami.

Robert T. McMillan, formerly of Oklahoma A. & M., has joined the department of economics and business administration of the Alabama Polytechnic Institute.

Richard R. Mead, research analyst of the Greyhound Corporation, has been appointed professor of marketing in the School of Commerce of the University of Southern California.

Jorge Mendez has been appointed a member of the economic section of the International Labor Office, Geneva, Switzerland.

Sidney B. Merlin, of the International Bank for Reconstruction and Development, has been appointed associate professor of economics at the University of Buffalo.

Hyman P. Minsky has been appointed assistant professor of economics at Brown University.

James N. Morgan, on leave of absence from Brown University, is with the Survey Research Center at Ann Arbor, Michigan.

Charles A. Myers has been promoted to the rank of professor of industrial relations at Massachusetts Institute of Technology.

Frank W. Naggi has been appointed associate professor of accounting and director of the Bureau of Economic and Business Research, School of Commerce and Finance, Saint Louis University.

Edward Neuner, Jr., has been appointed visiting assistant professor of economics at the University of Southern California.

William H. Newman, formerly of the Wharton School of Finance and Commerce, University of Pennsylvania, has been appointed professor of business administration in the Graduate School of Business, Columbia University.

Nian-tzu-Wang has been appointed instructor in economics at Columbia College.

Howard W. Nicholson, of Harvard University, has been appointed instructor in economics at the University of Virginia.

John C. Norby, of the University of Minnesota, has been awarded the Olaf Halvorson Fellowship by the American-Scandinavian Foundation for travel and study in Norway during the current academic year.

Walter G. O'Donnell has been appointed instructor in economics at Columbia College.

Henry M. Oliver, Jr., of Northwestern University, has been appointed professor of economics at Indiana University.

Norman C. Olson has been appointed assistant professor of economics at Concordia College.

John E. Orchard, on leave of absence from the Graduate School of Business, Columbia University, is serving as executive assistant to W. Averill Harriman, deputy administrator for the Economic Cooperation Administration.

Herman F. Otte has returned to the Graduate School of Business, Columbia University, after a year in South America, where he was engaged in field work on industrial development.

Henry T. Owen has been promoted to associate professor of economics in the College of Commerce and Business Administration, Tulane University.

Martin D. Palm has been appointed assistant professor of economics in the College of Commerce and Business Administration, Tulane University.

Robert W. Paterson has been appointed instructor in rural economics at the University of Virginia.

Andrew Paton has been appointed instructor in the College of Commerce, University of Kentucky.

Gardner Patterson has been appointed associate professor of economics and director of the International Finance Section, Princeton University.

W. N. Peach has resigned from the faculty of Syracuse University to become director of economic research at the University of Oklahoma.

George Pearce has been appointed instructor in business administration at the School of Commerce and Finance, Saint Louis University.

Walter H. Pearce has been appointed instructor in economics in the College of Commerce of the University of Kentucky.

Harry E. Peery has been appointed instructor in business organization and management in the College of Business Administration at the University of Nebraska.

Clinton A. Phillips, of Vanderbilt University, has been appointed instructor in economics at Baldwin-Wallace College.

M. Ogden Phillips has been named chairman of the department of economics at Washington and Lee University.

Karl P. Polanyi is in London, England during his leave of absence from Columbia University in the first semester of this year.

J. Richard Powell has been appointed assistant professor of economics at the University of Texas.

Raymond P. Powell has been appointed instructor in economics at Princeton University.

John P. Powelson has been appointed assistant professor of accounting at the University of Buffalo.

Thomas F. Quinn has been appointed dean of the School of Commerce and Finance, Saint Louis University.

Clark Randall has been appointed instructor in economics at the University of Kansas.

Lawrence F. Ritter, of the University of Wisconsin, is now instructor in economics at Michigan State College.

James G. Robinson, of New York University, has been appointed visiting assistant professor of retailing in the School of Commerce of the University of Southern California for the year 1949-1950.

Benjamin A. Rogge, of Northwestern University, has been appointed assistant professor of economics at Wabash College.

Sam Rosen has been appointed assistant professor of economics at the University of Wyoming for the current academic year.

David Rosenblatt, of the Bureau of the Budget, is visiting assistant professor of economics at Carnegie Institute of Technology in the current year.

Gideon Rosenbluth has been appointed instructor in economics at Princeton University.

Samuel Rubin has been promoted to the rank of professor of transportation in the School of Commerce, University of Southern California.

Jacob Schmookler, of the University of Pennsylvania, has accepted an appointment as instructor in economics at Michigan State College.

Karl de Schweinitz, Jr., of Yale University, has been appointed assistant professor of economics at Northwestern University.

Joseph Shister, of Yale University, has been appointed associate professor of industrial relations in the School of Business Administration, University of Buffalo.

William F. Shors has been appointed professor of accounting and head of the department of accounting at Butler University.

Carl S. Shoup, of the Graduate School of Business of Columbia University, spent the summer in Japan studying the Japanese tax situation for SCAP.

George P. Schultz has been appointed assistant professor of industrial relations at Massachusetts Institute of Technology.

Earl R. Sikes, of Dartmouth College, is on a sabbatical leave of absence during the current semester.

Charles E. Silberman has been appointed lecturer in economics at the School of General Studies, Columbia University.

Herbert A. Simon, of Illinois Institute of Technology, has been appointed professor and head of the department of industrial administration at Carnegie Institute of Technology.

Samuel Van D. Smith has been appointed instructor in commerce in the School of Business Administration, University of Pittsburgh.

T. H. Smith has been promoted from assistant professor to associate professor of economics at Purdue University.

Tillman M. Sogge, of St. Olaf College, went to Japan in the past summer as consultant for the Economic and Scientific Section of SCAP to continue work begun there in 1948.

Ezra Solomon has been appointed instructor in business administration at the University of Chicago.

William R. Spiegel has been appointed chairman of the department of management and associate dean of the College of Business Administration, University of Texas.

Hubert F. Stepp, of the University of Virginia, has been appointed professor of economics at the College of Charleston, Charleston, S.C.

Wolfgang F. Stolper has been appointed associate professor of economics at the University of Michigan.

Robert Summers has been appointed acting instructor in economics at Stanford University.

Zenon Sztatowski, of the University of Oregon, has been appointed associate professor of statistics in the School of Business Administration, University of Buffalo.

Philip Taft has been appointed chairman of the department of economics, Brown University.

W. Bayard Taylor, professor of business economics at Claremont Men's College has been appointed dean of the faculty.

Paul S. Taylor, of the University of California, Berkeley, is on sabbatical leave for this semester, doing research on agricultural labor.

Philip E. Taylor has been promoted from associate professor to professor of economics at the University of Connecticut.

William O. Thweatt, II, of the University of California at Los Angeles, has been appointed assistant professor of business administration and economics at George Pepperdine College.

Charles S. Tippetts, head master of the Mercersburg Academy, has been re-elected vice chairman of the Board of Directors of the Federal Home Loan Bank of Pittsburgh.

C. F. Joseph Tom has been appointed instructor in economics at Beloit College.

L. Reed Tripp has joined the staff of the University of Wisconsin as lecturer in economics.

Ross M. Trump, of the American College of Life Underwriters, has been appointed professor of marketing at the School of Business and Public Administration, Washington University, St. Louis.

John G. Turnbull, of the research administration of the Social Science Research Council, has joined the staff of the School of Business Administration, University of Minnesota, as associate professor.

David G. Tyndall, of Cornell University, is now assistant professor of economics at Carnegie Institute of Technology.

Abbott P. Usher, recently retired as professor of economics at Harvard University, is visiting professor of economic history at the University of Wisconsin during the present academic year.

Andre L. Van Assenderp has resigned from the College of Commerce and Business Administration of Tulane University to join the faculty of Florida State University.

Thurman W. Van Metre, professor of transportation in the Graduate School of Business, Columbia University, is retiring in October, 1949, after thirty-three years of service.

Rutledge Vining, who has been on leave of absence with the National Bureau of Economic Research, has returned to his teaching at the University of Virginia as professor of economics and statistics.

William B. Wait, of Cornell University, has been appointed visiting assistant professor of finance in the School of Commerce, University of Southern California.

Irving H. Wallace, of the University of Minnesota, has joined the faculty of Augsburg College in Minneapolis as assistant professor of economics and marketing.

F. Bernard Ward, of George Washington University, has been appointed assistant professor of accounting at Marquette University.

Gerald E. Warren has been promoted to professor of economics in the College of Commerce and Business Administration, Tulane University.

Ralph S. Watkins, director of research of Dun and Bradstreet and director of the Office of Plans and Programs of the National Security Resources Board, will offer a seminar in economic mobilization planning at the Graduate School of Business, Columbia University, in the Spring session, 1950.

John T. Weatherwax has been appointed instructor in accounting at the University of Kansas.

Murray L. Weidenbaum has been appointed fiscal analyst in the Bureau of the Budget.

Lionel Weiss, of Columbia University, has been appointed assistant professor of statistics at the University of Virginia.

Barton A. Westerlund has been appointed instructor in economics in the School of Business Administration, University of Miami.

J. Fred Weston, of the University of Chicago, has accepted an appointment as lecturer in business finance at the University of California at Los Angeles.

John T. Wheeler has been promoted to the rank of associate professor in the School of Business Administration, University of Minnesota.

David E. White, of Clark University, has been appointed assistant professor of economics at the University of Vermont.

Charles W. Williams, of the University of Louisville, has been appointed vice president, Federal Reserve Bank of Richmond.

J. Brooke Willis has been promoted from assistant professor to associate professor of banking in the Graduate School of Business, Columbia University.

William B. Wolf has been appointed instructor in industrial relations at the University of Chicago.

Albert E. Wolff has been appointed professor of marketing and international trade at Loyola University, New Orleans.

Charles E. Wuller has been appointed associate dean of the School of Commerce and Finance, Saint Louis University.

Herman J. Wyngarden has been appointed dean of the School of Business and Public Service, Michigan State College.

FORTY-SIXTH LIST OF DOCTORAL DISSERTATIONS IN POLITICAL ECONOMY IN PROGRESS IN AMERICAN UNIVERSITIES AND COLLEGES

The first list of this kind was dated January 1, 1904, and was sent to all members, but not regularly bound in the publications. A notation as to the earlier lists, extending from 1905 to 1927, may be found in the *Review* for September, 1927, page 574. Annual lists thereafter are to be found in the September number of the *Review* for each year.

The present list specifies doctoral degrees conferred, doctoral dissertations completed and accepted by the various universities, and the theses still in preparation. The last date given is the probable date of completion. In cases where the publishers of completed dissertations were given, this information has been reported.

The list represents the status of the several theses on June 15, 1949, except for a few items later reported as completed or published.

Economic Theory; General Economics

Degrees Conferred

- PIETRO CASTIGLIONI, Ph.D., Florida, 1949. The Utility Approach to Monetary Theory.
ARLEIGH P. HESS, JR., Ph.D., Pennsylvania, 1949. An Analysis of the Significance and Applicability of the Competitive Theory of Value to Practical Problems in Urban Residential Real Estate Valuation.
WILLIAM S. JOYCE, Ph.D., Harvard, 1949. The Economics of Luis de Molina: A Study in the Development of Scholastic Economics in the Sixteenth Century.
JOHN H. MORRMAN, Ph.D., Iowa State, 1949. A Study of Basic Economic Concepts in the High School Curriculum.
ALLEN M. SIEVERS, Ph.D., Columbia, 1949. Has Market Capitalism Collapsed? A Critique of Karl Polanyi's New Economics. (Published as No. 553, Columbia Studies in History, Economics, and Public Law.)

Theses Completed and Accepted

- KENNETH J. ARROW, B.S., College of City of New York, 1940; M.A., Columbia, 1941. Measurement of Economic Stability. 1949. *Columbia*.
CECIL H. MEYERS, M.A., Iowa State, 1948. The Economics of Henry George. 1949. *Iowa State*.

Theses in Preparation

- LAWRENCE ABBOTT, B.A., Harvard, 1924. Non-Price Competition. 1951. *Columbia*.
D. PHILLIP BEAUDRY, JR., B.S., Kansas, 1931; M.B.A., 1933; M.A., Harvard, 1935. Profit Concepts. 1950. *Harvard*.
KATHARINE ALLEY BEYER, B.A., Vassar, 1944. The Economics of Multiple Products. 1951. *Columbia*.
VINCENT F. BOLAND, B.A., Buffalo, 1941. Professor A. C. Pigou's Welfare Economics. 1950. *California at Los Angeles*.
HOWARD A. BOURNE, B.A., Doane College, 1937; M.A., Chicago, 1940. The Economic Concepts of Several Religious Leaders. 1950. *Chicago*.
MAURICE L. BRANCH, B.A., Michigan State, 1946; M.A., Wisconsin, 1947. Historical Development of Scientific Method. 1951. *Wisconsin*.
JOE E. BROWN, B.S., Texas College of Arts and Industries, 1939; M.S., 1941. Population Theory and the Value Problem: An Institutional Economic Analysis. 1949. *Texas*.
LESLIE E. CARBERT, B.A., British Columbia, 1946; M.A., Columbia, 1947. Studies in the Theory of Consumption and Expenditures. 1951. *Columbia*.
ALFRED F. CHALK, B.A., Baylor, 1934; M.S., Texas A & M, 1936. The Impact of Natural Law Theories on the Formation of Political Economy. 1950. *Texas*.

- JOSEPH CROPSEY, B.A., Columbia, 1939; M.A., 1940. Re-interpretation of Adam Smith. 1951. *Columbia*.
- ROBERT DORFMAN, B.A., Columbia, 1936; M.A., 1937. Problems Involved in Economic Model Building. 1951. *California*.
- BARNETT S. EBY, B.A., Southern California, 1927; Th.B., Princeton Theological Seminary, 1935; M.A., Princeton, 1942. Economics and the Concept of Justice. 1950. *Princeton*.
- CORNELIUS A. ELLER, S.J., M.A., Georgetown, 1940. A Synthesis and Criticism of the Major Economic Doctrines Contained in the Writings of John Atkinson Hobson. 1950. *Saint Louis*.
- ROBERT FERBER, B.S., College of City of New York, 1942; M.A., Chicago, 1945. An Economic and Marketing Study of Consumption Theories and of Consumption Functions. 1950. *Chicago*.
- DANIEL R. FUSEFELD, B.A., George Washington, 1942; M.A., Columbia, 1947. The Economic Thought of Franklin D. Roosevelt. 1950. *Columbia*.
- PATRICK W. GEARTY, B.A., St. Paul Seminary, 1941; M.A., Catholic, 1947. Economic and Social Philosophy of Monsignor John A. Ryan. 1950.
- IRWIN GERARD, B.S.S., College of City of New York, 1941; M.A., Columbia, 1947. The Economic Thought of William Jennings Bryan. 1951. *Columbia*.
- JAMES B. GILES, B.B.A., Texas, 1936; M.A., 1937. Influence of Wage Costs upon Rates of Technological Progress. 1950. *Columbia*.
- DONALD F. GORDON, B.A., Saskatchewan, 1944; M.A., Toronto, 1946. Some Aspects of the Theory of Distribution, Employment and Equilibrium. 1949. *Cornell*.
- HOWARD H. GREENBAUM, B.S., Columbia, 1939; M.S., 1945. Fund Analysis of Transactions in Economic Research. 1950. *Columbia*.
- DAVID B. HAMILTON, B.A., Pittsburgh, 1940; M.A., 1941. Economic Theories and Social Change. 1950. *Texas*.
- WILLIAM H. HOHMAN, S.J., M.A., Weston College, 1938; S.T.L., 1944. The Economic Content of Social Justice in Early Modern Scholastics. 1950. *Saint Louis*.
- L. JOHN KUTISH, B.S., Iowa State, 1943. Proportionality in the Theory of the Firm. 1950. *Wisconsin*.
- ALEXANDER KUTSCHEROFF, B.A., Wesleyan, 1946. Chernyshevsky's Social and Economic Philosophy. 1950. *Columbia*.
- FRANCIS L. LOEWENHEIM, B.A., Cincinnati, 1947; M.A., 1948. Bismarck's Economic Thought and Policies before the Empire. 1951. *Columbia*.
- JOSEPH P. MCKENNA, B.S., Harvard, 1946. Demand for Durable Consumer Goods. 1950. *Harvard*.
- LIONEL W. MCKENZIE, B.A., Duke, 1939. Utility Theory and the Welfare Concept. 1950. *Princeton*.
- MORRIS MENDELSON, B.A., Queen's University, 1946. Some Aspects of Consumer Behavior. 1950. *Cornell*.
- PAUL A. MONTAVON, B.A., St. Mary's Seminary, 1942; M.A., Catholic, 1947. Economic and Social Thought of John Mitchell. 1950.
- ROBERT OSBORN, JR., B.A., Princeton, 1943; M.A., 1948. The Concept of Mobility in Economic Theory. 1950. *Princeton*.
- ALAN L. RITTER, B.A., DePauw, 1935. The Application of the Theory of Imperfect Competition to the Determination of Wages. 1950. *Wisconsin*.
- JEROME ROTHENBERG, B.A., Columbia, 1945; M.A., 1947. Veblenian Contributions to Welfare Economics: An Essay on the Societal Approach to Economic Theory. 1950. *Columbia*.
- IRVING H. SIEGEL, B.S., College of City of New York, 1934; M.A., New York, 1935. Conception and Measurement of Production and Productivity. 1950. *Columbia*.
- ROBERT E. SMITH, M.A., California at Los Angeles, 1947. A Survey of Modern Theories of the Rates of Interest. 1950. *California at Los Angeles*.
- WARREN L. SMITH, B.A., Michigan, 1947. The Relations between Macroeconomics and Microeconomics. 1951. *Michigan*.
- DARRELL L. SPRIGGS, M.S., Illinois, 1947. Contemporary American Wage Theory. 1949. *Illinois*.

- GEORGE J. STOLNITZ, B.A., College of City of New York, 1939; M.A., Princeton, 1942. *Dynamic Theory of the Firm*. 1950. *Princeton*.
- MALCOLM URQUHART, B.A., Alberta, 1940. *Capital Accumulation, Technological Change, and Economic Progress: A Study of Economic Change with Special Reference to the Functional Distribution of Income*. 1950. *Chicago*.
- PETER VUKASIN, B.A., California, 1941. *Implications for the Scope and Method of Economics of the Transition from Value Theory to Price Theory in the 19th Century*. 1950. *California*.

Economic History; National Economies

Degrees Conferred

- AARON M. BOOM, Ph. D., Chicago, 1948. *The Development of Sectional Attitudes in Wisconsin, 1820-40*.
- LOUIS A. CANTERERO, Ph.D., Iowa State, 1948. *The Economic Development of Nicaragua, 1920-1947*.
- JEROME B. COHEN, Ph.D., Columbia, 1949. *Japanese War Economy*. (Published by The International Secretariat of the Institute of Pacific Relations, University of Minnesota Press, 1949.)
- JAMES F. DOSTER, Ph.D., Chicago, 1948. *Railroad Regulations in Alabama*.
- ROBERT B. HARLEY, Ph.D., Iowa State, 1948. *The Land and Society in Maryland in 18th Century*.
- KEACH D. JOHNSON, Ph.D., Iowa State, 1949. *The Establishment of the Baltimore Company*.
- AUBREY C. LAND, Ph.D., Iowa State, 1948. *Dulany the Elder: A Study in Achievement*.
- DON E. LIVINGSTON, Ph.D., Saint Louis, 1949. *Market Development and Price Formation in Colonial and Territorial St. Louis*.

Theses Completed and Accepted

- WILLIAM HALLER, JR., B.A., Amherst, 1936; M.A., Columbia, 1938. *The Puritan Frontier; Town-Planning in New England Colonial Development, 1630-1660*. 1949. *Columbia*.
- REGINALD C. S. SHEPPARD, B.A., Wales, 1939; M.B.A., New York, 1940. *The Depressed Area of South Wales*. 1949. *Columbia*.

Theses in Preparation

- THAD P. ALTON, B.A., Alabama, 1935; M.A., 1936. *Polish Post-War Economic Planning*. 1950. *Columbia*.
- RENZO BIANCHI, B.A., Chicago, 1936; M.A., 1938. *Guild Proposals for Economic Organization*. 1950. *Chicago*.
- JACK BLICKSILVER, B.A., Queens College, 1948. *A Study of the Defenders and Defense of Big Business and the Concentration of Wealth in America, 1865-1900*. 1951. *North-western*.
- KATHLEEN W. BOOM, B.A., Alabama College, 1939; M.A., Alabama, 1940. *J. Rosenwald Fund and Southern Education*. 1950. *Chicago*.
- DAVID BRADFORD, B.A., Michigan, 1930; M.A., 1931. *The Development of Sectional Attitudes in Ohio, 1845-1860*. 1949. *Chicago*.
- DAVID D. BURKS, B.A., Carleton College, 1945. *Dawn of Manufacturing in Mexico*. 1950. *Chicago*.
- WALDO CRIPPEN, B.A., Washburn College, 1927; M.A., Chicago, 1932. *The Kansas-Pacific Railroad: A Cross Section of an Age of Railroad Building*. 1949. *Chicago*.
- HARRY S. CROWE, B.A., Manitoba, 1947; M.A., Toronto, 1948. *The State and Economic Life in Canada*. 1951. *Columbia*.
- FRANCIS J. DUNOGHUE, B.A., Boston, 1939; M.A., 1940; S.T.L., Weston College, 1946. *Economic and Social Policies of John C. Calhoun*. 1950. *Columbia*.
- FRANCIS DUNCAN, B.A., Ohio Wesleyan, 1943; M.A., Chicago, 1947. *History of the Detroit & Cleveland Navigation*. 1951. *Chicago*.

- NEIL B. DUNLAP, B.A., Alabama, 1941. Expansion of the Soviet-Asian Economic Frontier. 1949. *Chicago*.
- MELVIN A. EGGERS, M.A., Indiana, 1941. Industrial Expansion in Japan. 1950. *Yale*.
- J. WILLIAM FREDRICKSON, B.S., Northwestern, 1938; M.A., Chicago, 1942. American Shipping and Foreign Commerce 1789 to 1860. 1950. *Chicago*.
- IRVING GARBATI, B.S.S., College of City of New York, 1942; M.A., Columbia, 1948. From Laissez-faire to the Labor Party (A Study of the British Trade Union Movement in Transition). 1951. *Columbia*.
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- HALSEY N. BROOM, Ph.D., Texas, 1949. Some Applications of Statistical Method to the Solution of Factory Management Problems, with Special Reference to Texas.
- HARLAN M. SMITH, Ph.D., Chicago, 1949. Leontief's Input-Output Studies as a Basis for Specific Multipliers.
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Economic Systems; Planning and Reform; Cooperation

Degrees Conferred

VERNON R. ESTEVES, Ph.D., Harvard, 1949. Economic Policy for Puerto Rico.
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ARTHUR L. BEKENSTEIN, B.A., West Virginia, 1941; M.A., Columbia, 1942. The Origins and Distinctive Nature of Consumer Cooperation: An Economic Analysis. 1951. *Columbia*.
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DANIEL B. SUITS, Ph.D., Michigan, 1949. Productivity and Capital Expenditure in Selected Industries, 1919-1938.
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- JAMES D. DAANE, Ph.D., Harvard, 1949. Fifth Federal Reserve District: A Study in Regional Economics.
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- WILLIAM A. VOGELY, B.A., Kenyon College, 1945; M.A., Princeton, 1947. The Commodity Reserve Standard. 1950. *Princeton*.
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Business Finance; Investments and Security Markets; Insurance

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- HOMER JONES, Ph.D., Chicago, 1949. Facilitating the Flow of Savings into Private Investment.
- LEWIS E. KNOLLMEYER, Ph.D., Wisconsin, 1949. Housing as an Outlet for Investment.

- RAMONA M. KUNTZE, Ph.D., Wisconsin, 1949. University Finance and the Business Cycle.
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E. RAYMOND COREY, B.A., Amheist, 1941; M.B.A., Harvard; M.A., 1947. The Private Placement of Life Insurance Investments. 1950. *Harvard*.
ALBERT DEHNER, B.B.A., Ohio State, 1936; M.B.A., 1939. Stock Dividends and Stock Splittings. 1950. *Ohio State*.
MICHAEL GORT, B.A., Brooklyn, 1943. Towards a Capital Outlay Policy—Investment Timing in the Electric Light and Power Industry during the Business Cycle. 1951. *Columbia*.
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MATTHEWS M. JOHNSON, B.S., Temple, 1936; M.A., Pennsylvania, 1939. The Philadelphia Mortgage Market. 1951. *Pennsylvania*.
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- WILLIAM H. ANDREWS, JR., Ph.D., Chicago, 1949. Financing Public Relief, Welfare, and Health in Indiana.

- JAMES M. BUCHANAN, Ph.D., Chicago, 1948. Fiscal Equity in a Federal State.
HAROLD H. CUTLER, Ph.D., Iowa State, 1949. Property Tax Levies in Utah.
HARRY P. B. JENKINS, Ph.D., Chicago, 1948. Financing Adequate Public Services in Nova Scotia.
VERNON O. JOHNS, Ph.D., Kansas, 1948. Property Taxation in Virginia.
GLENN A. McCONKEY, Ph.D., Iowa State, 1949. Federal Taxation as an Instrument of Social Control.
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A. E. CARLSEN, B.A., British Columbia, 1946; M.A., Toronto, 1948. Some Implications of the Public Debt. 1951. *Toronto*.
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- C. C. DAWSON, B.S., Kentucky, 1927; M.A., Peabody, 1931. *State Tax Administration in Kentucky Since 1852*. 1951. *Kentucky*.
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- MIKHAIL CONDOIDE, Ph.D., Ohio State, 1949. Some Salient Features and International Economic Relations. (To be published in 1950 by the Bureau of Business Research, Ohio State University.)
- PETER H. GREENWOOD, Ph.D., Cornell, 1949. Forces of Adjustment in the Canadian Balance of International Payments, 1926-38.
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- GEORGE ROSEN, Ph.D., Princeton, 1949. The Long-run Effects upon the United States of the Industrial Development of the Far East.
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- JACQUELINE RORABECK, B.A., California, 1945; M.S., Columbia, 1947. The Benelux Customs and Economic Union: A Case Study. 1950. *Columbia*.
- ALEXANDER M. ROSENSON, B.S., California, 1937; M.A., 1938. Aspects of British Postwar External Finance. 1950. *Chicago*.
- ANTIOCO SACASA, Doctor en Derecho, Universidad de Leon, Nicaragua, 1939; M.A., Ohio State, 1944. Central America: Economic Analysis. 1950. *Minnesota*.
- FRANCISCO R. SAENZ, B.S., Columbia, 1942; M.S., 1943. The Problem of Exchange Stabilization. 1949. *Columbia*.
- WILSON E. SCHMIDT, B.S., Maryland, 1947; M.A., Pittsburgh, 1948. Multiple Foreign Exchange Rates. 1951. *Virginia*.
- EDITH G. SEVERO, B.A., Hunter, 1941; M.A., Wisconsin, 1943. Western Europe's Investment Plans and Policies under E.R.P. 1951. *Columbia*.
- IRVING A. SIRKEN, B.A., McGill, 1942; M.A., 1943; M.A., Harvard, 1947; M.P.A., 1947. Industrialization of Backward Areas. 1950. *Harvard*.
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Business Administration

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- FRANCIS A. BABIONE, Ph.D., Ohio State, 1949. Leasing as a Method of Marketing.
- JOHN M. BROPHY, Ph.D., New York School of Industrial and Labor Relations, 1947. Education and Training in the Industries of Upstate New York.
- WILLIAM H. CHILDS, Ph.D., Columbia, 1948. Consolidated Financial Statements. (Published 1949, Cornell University Press.)
- CLAIRE E. DAGGETT, Ph.D., Iowa State, 1949. A Study of the Market Analysis Problems of "Small-Scale" Retail Establishments in the United States.
- NEIL T. HOUSTON, Ph.D., Harvard, 1949. Methods of Efficiency Analysis in Marketing.
- PAUL KIRCHER, Ph.D., Michigan, 1949. Accounting for Investments.
- CHARLES W. LAMDEN, Ph.D., California, 1949. The Securities and Exchange Commission: A Case Study in the Use of Accounting as an Instrument of Public Policy.
- ROBERT B. MINER, Ph.D., Ohio State, 1948. Trends and Variations in Marketing Costs.
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- RADHA DAS, B.S., Andhra University, India, 1944; M.S., Cornell, 1948. An Analytical Study of Electrical Curricula in the Technical Institutes of Northeastern United States. 1949. *New York School of Industrial and Labor Relations*.
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- ROGER W. OBERG, B.B.A., Minnesota, 1941; M.B.A., Ohio State, 1947. Executive Development. 1950. *Massachusetts Institute of Technology*.
- M. WINIFRED POTTS, B.S., State Teachers College, Shippensburg, 1941; M.Ed., Temple, 1944. Business and Economics: Their Relationship at the Collegiate Level. 1949. *Chicago*.
- ROBERT M. STRAHL, B.A., Muskingum, 1935; M.B.A., Ohio State, 1939. Executive Training in Department Stores—A Case Study. 1950. *Ohio State*.
- WASHINGTON SYCIP, B.S.C., University Santo Lamas, Manila, 1939; M.S.C., 1940. Formulation of Accounting Principles. 1951. *Columbia*.

- WENDELL P. TRUMBULL, M.A., Michigan, 1941. A Study of Recent Cost Accounting Problems as Related to Principles of Cost Analysis. 1950. *Michigan*.
- HENRY H. WARE, B.A., Pomona, 1932; M.A., Columbia, 1939. Economics of Soviet Retail Trade. 1950. *Columbia*.
- FRANCIS A. WINGATE, B.A., Bowdoin, 1931; M.B.A., Harvard, 1933. Principles and Methods of Price Determination in Retailing. 1950. *Ohio State*.
- RICHARD S. WOODS, B.A., Rochester, 1941; M.B.A., Pennsylvania, 1947. A New Approach to the Matching of Distribution Costs with Revenue. 1951. *Pennsylvania*.
- ELMER R. YOUNG, B.S., Utah, 1936; M.S., 1937. Distribution Cost Accounting. 1949. *Columbia*.

Industrial Organization and Markets; Public Regulation of Business

Degrees Conferred

- WARREN C. BAUM, Ph.D., Harvard, 1949. Workable Competition in the Tobacco Industry.
- JOHN R. BEISHLINE, Ph.D., Ohio State, 1949. A Philosophy of Military Organization and Management.
- CHRIS D. CALSOYAS, Ph.D., California, 1949. The Theories and Policies of Industrial Location in the Soviet Union.
- JOSEPH D. COKER, Ph.D., George Washington, 1949. Economics of Strategic Target Selection.
- BELA GOLD, Ph.D., Columbia, 1949. Wartime Economic Planning in Agriculture: (Published as No. 551, Columbia Studies in History, Economics, and Public Law.)
- ELEANOR M. HADLEY, Ph.D., Harvard, 1949. Concentrated Business Power in Japan.
- CHARLES H. HESSON, Ph.D., Columbia, 1949. Competition in the Metal Food Container Industry, 1916-1946.
- THOMAS D. KAUFMANN, Ph.D., Harvard, 1949. Movie Markets and Monopoly.
- ALEXANDER N. MCLEOD, Ph.D., Harvard, 1949. Maintaining Employment and Incomes in Canada.
- LEE R. MARTIN, Ph.D., Harvard, 1949. Supply Problems in the Philadelphia Fluid Milk Market.
- RICHARD SIELAFF, Ph.D., Minnesota, 1948. A Study of the Theory of Monopolistic Competition as Applied to Agricultural Processing Industry.
- HAROLD S. WILLIAMS, Ph.D., Iowa State, 1948. The Effects on Competition of Federal Legislation Regulating Business.
- ROBERT A. WINTERS, Ph.D., Harvard, 1949. Price Control in the Rubber Footwear Industries, 1942-1946.

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- GEORGE D. BODENHORN, M.A., Chicago, 1948. Analysis of Railroad Regulation by the Interstate Commerce Commission. 1949. *Chicago*.
- RICHARD M. BOURNE, B.S., Colorado A & M College, 1931; M.S., Illinois, 1932. The Theory of Price Control under the OPA. 1949. *Nebraska*.
- THOMAS E. M. BRAND, B.A., Colorado, 1943; M.A., Harvard, 1944. The Regulation of Industrial Location. 1950. *Columbia*.

- HOLLIS B. CHENERY, B.S., Oklahoma, 1942; M.A., Virginia, 1947. Engineering Bases of Economic Analysis. 1949. *Harvard*.
- MISCHA COHEN, B.S., Illinois, 1945; M.A., Chicago, 1946. Price Policies and Market Controls in the Farm Equipment Industry. 1949. *Chicago*.
- ARNOLD H. DIAMOND, B.B.S., College of City of New York, 1946; M.A., Columbia, 1947. The Public Corporation—Some Financial and Economic Considerations. 1951. *Columbia*.
- ARTHUR T. DIETZ, B.A., Wesleyan, 1946; M.A., Princeton, 1948. Analysis of Decrees in Sherman Act Cases. 1950. *Princeton*.
- LESTER E. EDMOND, B.B.A., College of City of New York, 1943; M.P.A., Harvard, 1948; M.A., 1949. Monopoly in the Shoe Machinery Industry. 1949. *Harvard*.
- GEORGE H. ELLIS, B.A., Maine, 1941; M.A., Harvard, 1948. Postwar Industrial Location in New England. 1949. *Harvard*.
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- HARRY FRUMERMAN, B.S., College of City of New York, 1933; M.A., Columbia, 1934. Jay Gould—a Study of Entrepreneurship. 1951. *Columbia*.
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- MARY L. MACK, M.A., Radcliffe, 1948. The Factors Underlying the Relationship Between the Production Cost and Selling Price of a Commodity: A Case Study. 1950. *Harvard*.
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- W. DWAYNE RICHINS, M.B.A., Louisiana, 1938. Governmental Marketing Barriers in the Pacific Northwest. 1949. *Washington*.
- LAWRENCE S. RITTER, B.A., Indiana, 1943; M.A., Wisconsin, 1948. Price Control and Welfare Economics. 1950. *Wisconsin*.
- GIDEON ROSENBLUTH, B.A., Toronto, 1943. Industrial Concentration in Post-War Canada and the Effects of the War. 1951. *Columbia*.
- BERNARD SCHURMAN, B.S., College of City of New York, 1939; M.A., Columbia, 1947. The National Resources Planning Board: an Evaluation. 1951. *Columbia*.
- DAVID SCHWARTZMAN, B.A., McGill, 1945. Wartime Industrial Controls in Canada. 1950. *California*.
- ARTHUR O. SELTZER, B.A., Chicago, 1938; M.A., 1941. The English Town and Country

- Planning Act, 1947: A Study in the Economics of Planning Resource Allocation. 1950. *Chicago*.
- GILBERT N. SMITH, B.A., Oklahoma City University, 1936; M.B.A., Boston, 1938. Changing Policy of the Federal Government toward Competition since 1911. 1950. *Nebraska*.
- ABRAHAM SONDAK, B.A., Brooklyn, 1934; M.A., Columbia, 1936. The History of the Competitive Policies of the United States Steel Corporation. 1950. *Columbia*.
- PETER O. STEINER, B.A., Oberlin, 1943; M.A., Harvard, 1949. Workable Competition in the Radio Broadcasting Industry. 1949. *Harvard*.
- CALVIN STILLMAN, B.A., Harvard, 1939; M.S., Iowa State, 1941. An Economic Analysis of the Policies of Organized Medicine. 1951. *Chicago*.
- FRANK VAN BRUNT, M.A., Chicago, 1948. Certain Community Experiments in Alternative Systems of Distribution. 1950. *Chicago*.
- JAMES M. WALLER, B.A., Vanderbilt, 1922; M.A., 1927; LL.B., Yale, 1924. An Evaluation of National Policy on Close Combinations. 1950. *North Carolina*.
- JARED S. WEND, M.A., Michigan, 1947. Federal Control of the Dairy Industry. 1951. *Michigan*.
- WILLIAM V. WILMOT, JR., B.A., Syracuse, 1937; M.A., 1939. Some Theoretical Considerations of the Restrictive Practices of Cattle. 1949. *Wisconsin*.
- BERNARD ZAGORIN, B.A., Chicago, 1942; M.A., 1948. A Study of the Patent Policy of the Alien Property Custodian and Its Effect on the American Chemical Industry (Dyestuffs). 1950. *Chicago*.

Public Utilities; Transportation; Communications

Degrees Conferred

- EDGAR F. BUNCE, JR., Ph.D., Wisconsin, 1949. The Administration of the Public Utility Holding Company Act of 1935—a Case Study.
- WILLIAM C. DAVIS, Ph.D., Yale, 1949. Taxation of Air Transport.
- ROBERT S. ECKLEY, Ph.D., Harvard, 1949. The U. S. Petroleum Industry in Transition—1900 to 1920.
- ALLEN R. FERGUSON, Ph.D., Harvard, 1949. A Technical Synthesis of Airline Costs.
- GAYTON E. GERMANE, Ph.D., Harvard, 1949. Control of Airlines by Surface Carriers.
- RALPH C. HOEBER, Ph.D., Wisconsin, 1949. The Development of Public Utility Regulation in Oregon.
- SISTER JANE M. HOWARD, I.H.M., Ph.D., Catholic, 1949. Economic Aspects of St. Lawrence Power and Navigation Project. (Published in 1948 by Catholic University of America Press.)
- HOLLAND HUNTER, Ph.D., Harvard, 1949. The Economics of Soviet Railroad Policy.
- HERBERT F. KLINGMAN, Ph.D., Wisconsin, 1949. The Physical Integration of Public Utility Holding Companies Since 1935 (The Securities and Exchange Commission's Administration of the Physical Integration Requirements of the Public Utility Holding Company Act of 1935).
- JOHN B. LANSING, Ph.D., Harvard, 1949. An Investigation into the Long Run Cost Curves for Steam Central Stations.
- SPENCER M. SMITH, JR., Ph.D., Iowa State, 1948. Marginal Cost Pricing in Public Utilities and Similar Decreasing Cost Industries.
- EDWARD T. P. WATSON, Ph.D., Harvard, 1949. Railroad Reorganization under Section 77 of the National Bankruptcy Act.

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- SAUL BENISON, B.A., Queens, 1941. History of the Eastern Railway Pools, 1877-1897. 1950. *Columbia*.
- ROBERT E. BERGER, B.A., Columbia, 1938; M.A., 1939. History of the Chesapeake and Ohio Railway. 1950. *Columbia*.
- ROBERT C. BLACK, III, B.A., Williams, 1937; M.A., Denver, 1947. Railroads of the Confederacy in the Civil War. 1951. *Columbia*.

- SIDNEY DAVIDSON, B.A., Michigan. Federal Power Commission Accounting. 1950. *Michigan*.
- WILLIAM R. DIECKMAN, M.A., Michigan, 1947. Rate Regulation in the Air Transport Industry. 1951. *Michigan*.
- VERNON R. FRYBURGER, B.S., Miami, 1939. Economic Aspects of Radio Broadcasting. 1950. *Illinois*.
- JOSEPH A. GREENE, JR., B.A., Berea College, 1941; M.A., Virginia, 1943. Freight Rates in the South and Their Effect Upon Its Economy. 1951. *Virginia*.
- DONALD F. HEANY, B.A., Harvard, 1947. The Chosen Instrument in International Aviation. 1949. *Harvard*.
- HENRY W. HEWETSON, B.A., Toronto, 1924; M.A., British Columbia, 1925. An Examination of the Distance Principle of Railway Freight Making with References to Canadian Conditions. 1949. *Chicago*.
- DAVID V. HUDSON, JR., B.S., Utah, 1948; M.S., 1948. Control of Airline Costs through Management Actions. 1951. *Massachusetts Institute of Technology*.
- CLIFTON C. JONES, B.A., Marshall College, 1944. Agricultural Development Work of the Burlington Railroad. 1951. *Northwestern*.
- HENRY I. JORGENSEN, B.A., Stanford, 1937; M.A., Columbia, 1940. International Shipping Policy of the United States. 1950. *Columbia*.
- HARVEY J. LEVIN, B.A., Hamilton, 1944; M.A., Columbia, 1948. Public Monopoly in Broadcasting: A Study in Welfare Economics. 1951. *Columbia*.
- C. N. MILLICAN, B.A., Peabody, 1946. The Economics of Television. 1952. *Florida*.
- FREDRIC P. MORRISSEY, B.Com., Toronto, 1943; M.Com., 1946. Economic Study of the Ontario Hydro-Electric Power Commission. 1950. *Columbia*.
- EDWARD NEUNER, B.A., Brooklyn, 1944; M.A., Wisconsin, 1945. State and Federal Regulation of Natural Gas Industry. 1950. *Columbia*.
- HOWARD W. NICHOLSON, M.A., Harvard, 1948. The Development of the Highway System in the Middle Atlantic States as a Major Transportation Facility and the Economic Importance of Highway Design. 1949. *Harvard*.
- JOSEPH M. ROBERTSON, B.A., Western Kentucky State Teachers' College, 1946; M.A., Alabama, 1947. State Public Utility Regulation in Alabama. 1951. *Minnesota*.
- DANIEL W. ROERBAUGH, B.A., Franklin and Marshall, 1935; M.A., Duke, 1941. The Economics of Air Freight Transportation. 1950. *Pennsylvania*.
- FRANK W. SCHIFF, B.A., Columbia, 1942. Investment in Selected Electric Power Companies—A Case Study of Decision-making in a Public Utility. 1951. *Columbia*.
- DAVID S. SCHWARTZ, B.S., Maryland, 1943. The Labor Problem of the Public Utilities. 1950. *Wisconsin*.
- R. J. SUTHERLAND, B.Com., Toronto, 1941; M.A., Toronto, 1946. The Economics of Air Power. 1950. *Toronto*.
- RICHARD J. TEWELES, M.S., Illinois, 1948. Economic History of the C. & E.I.R.R. (Central & Eastern Illinois). 1949. *Illinois*.
- MILTON W. TOMBER, B.A., Columbia, 1942; M.A., 1943. Rate of Return in Public Utility Regulation. 1950. *Columbia*.
- EASTON T. WHITE, B.A., Gettysburg, 1940; M.A., Maryland, 1947. The Chesapeake and Delaware Canal. 1951. *Columbia*.
- WILLIAMS E. WILLIAM, JR., B.S., Columbia, 1938; M.S., 1939. Rail-Motor Rate Competition as Regulated by the I.C.C. since the Motor Carrier Act of 1935. 1950. *Columbia*.
- WILLIAM M. ZENTZ, M.A., Michigan, 1947. Simplification and Integration of Public Utility Holding Companies. 1951. *Michigan*.

Industry Studies

Degrees Conferred

- PHYLLIS BATE, Ph.D., Chicago, 1948. Development of the Iron and Steel Industry in Chicago.
- ROBERT L. BISHOP, Ph.D., Harvard, 1949. Mechanization of the Glass-Container Industry.

- ANNE P. GROSSE, Ph.D., Harvard, 1949. The Technical Production Function and Cost Minimization in Open Hearth Steelmaking.
- THOMAS F. JOHNSON, JR., Ph.D., Virginia, 1949. Cigarette Tobacco: Production and Price Analysis.
- KENYON A. KNOPF, Ph.D., Harvard, 1949. The Location of the Rubber Tire and Inner Tube Industry.
- JESSE W. MARKHAM, Ph.D., Harvard, 1949. Price and Output Behavior in the Domestic Rayon Industry.
- SAMUEL L. MYERS, Ph.D., Harvard, 1949. Product Testing and Labeling with Special Reference to Textiles.

Thesis Completed and Accepted

- WILLIAM A. KNOKE, M.A., Iowa State, 1948. The Marketing Implications of Integration in the Textile Industry. 1950. *Iowa State*.

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- CECIL BIRCH, B.A., Assumption, 1945; M.A., Toronto, 1946. Some Economic Aspects of the American Plastics Industry. 1951. *Toronto*.
- DAVID BOTTING, B.A., Washington, 1940; M.A., 1947. Motion Picture Industry, Latin America. 1951. *Chicago*.
- ARTHUR A. BRIGHT, B.A., Dartmouth, 1939; C.S.M., 1940; M.A., Chicago, 1942. Technological Change and the Electric Lamp Industry. 1949. *Chicago*.
- JESSIE S. BYNUM, B.A., Huntington College, 1939; M.A., Chicago, 1941. The U. S. Packing Companies and the Meat-Packing Industry of South America. 1949. *Chicago*.
- WILLIAM M. CAPRON, B.A., Swarthmore, 1942; M.P.A., Harvard, 1947; M.A., 1948. Capital Investment and Technological Change in the Iron and Steel Industry. 1949. *Harvard*.
- LEONARD E. CHADWICK, B.S., California, 1935. Production and Marketing in the California Wine Industry. 1951. *California*.
- JANET G. CHAPMAN, B.A., Swarthmore, 1943. The Economics of the Iron and Steel Industry of the Soviet Union: A Case Study in Planning. 1951. *Columbia*.
- MILLS G. CLARK, B.A., Harvard, 1939; M.A., Minnesota, 1941; M.A., Harvard, 1947. Economic Problems of Soviet Iron and Steel Industry. 1949. *Harvard*.
- J. HOWARD CRAVEN, M.A., Harvard, 1947. Prospects for a Western Wool Processing Industry. 1951. *Harvard*.
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- GORDON DONALD, JR., B.A., Princeton, 1939; M.A., Chicago, 1942. The Theory of Marginal Productivity and its Application to the Cotton Textile Industry in the United States. 1950. *Chicago*.
- EDGAR O. EDWARDS, B.A., Washington & Jefferson, 1947; M.A., Johns Hopkins, 1949. Expansion in the Chemical Industry in the United States. 1950. *Johns Hopkins*.
- SIEGFRIED GARBUNY, Diplomvolkswirt, University of Berlin, 1936. The Synthetic Rubber Industry. 1950. *Columbia*.
- ADA M. HARRISON, M.A., Radcliffe, 1949. An Economic Analysis of the Furniture Industry. 1952. *Harvard*.
- WILLIAM A. HAYES, B.A., DePaul, 1942; M.A., Catholic, 1948. The Hotel Industry in the American Economy. 1950. *Catholic*.
- GLENN L. HODGE, B.S., Kansas State Teachers College, 1935; M.S., Denver, 1941. The Paper Industry with Special Reference to Louisiana. 1949. *Louisiana State University*.
- ALAN S. MANNE, M.A., Harvard, 1948. Joint Supply Relations of Refined Petroleum Products. 1950. *Harvard*.
- WALTER S. MEASDAY, B.A., William and Mary, 1941. The American Watch Industry. 1950. *Massachusetts Institute of Technology*.
- FREDERICK MOORE, B.A., Wisconsin, 1941; M.A., 1942. Industry Structure in Non-Ferrous Metals. 1950. *California*.

- JAMES A. MORRIS, M.A., Harvard, 1947. *The Woolen and Worsted Industry in the South.* 1950. *Harvard.*
- DEAN W. MORSE, B.A., Harvard, 1941. *The Rubber Industry—A Case Study of the Investment Process, 1920-1930.* 1950. *Columbia.*
- P. BERNARD NORTMAN, B.S., College of City of New York, 1934; M.A., Columbia, 1935. *The Scrap Iron and Steel Industry: A Study in Oligopsony.* 1950. *Columbia.*
- HAROLD C. PASSER, M.A., Harvard, 1948. *The Early History of the Electrical Manufacturing Industry in the United States.* 1950. *Harvard.*
- W. G. PHILLIPS, B.A., Toronto, 1944; M.A., 1947. *The Farm Implement Industry.* 1950. *Toronto.*
- ROYAL H. RAY, B.A., DePauw, 1927; M.A., Wisconsin, 1935. *Decline in the Number of Units and Concentration of Ownership and Control in the American Daily Newspaper Industry.* 1950. *Columbia.*
- WILLIAM A. REYNOLDS, B.A., William and Mary, 1938; M.A., New York, 1940. *The Economics of Demand for Floor Coverings, 1921-41.* 1950. *Columbia.*
- LLOYD B. SAVILLE, B.A., Pennsylvania, 1935; M.A., Columbia, 1936. *Price Determination in the Gray-Iron Foundry Industry.* 1950. *Columbia.*
- GERTRUDE SCHROEDER, B.A., Colorado State College of Education, 1940; M.A., Johns Hopkins, 1948. *The Growth of the Business Unit in the Iron and Steel Industry.* 1950. *Johns Hopkins.*
- EDWARD R. WILLETT, M.A., Harvard, 1947. *Radio Parts Distribution Industry in New England.* 1949. *Harvard.*

Land Economics; Agricultural Economics; Economic Geography

Degrees Conferred

- ANDREW AANDAHL, Ph.D., Iowa State, 1949. *Estimation of Soil Productivity in Relation to Land Values and Farm Management.*
- EMANUEL BAUM, Ph.D., Iowa State, 1949. *Economic Analysis of the Quad Cities (Iowa-Illinois) Milk Market.*
- ROSS V. BAUMANN, Ph.D., Harvard, 1949. *Competition between Areas in Milk Production.*
- RAYMOND R. BENEKE, Ph.D., Minnesota, 1949. *Transfer of Farm Operatorship with Special Reference to the Problems of Beginning Operators and the Utilization of Farm Resources During the Establishment Phase.*
- WILLIAM H. BROWN, Ph.D., Harvard, 1949. *Economics of Dairy Farming in Southern New England.*
- GEORGE B. BYERS, Ph.D., Iowa State, 1948. *Resource Allocation and Income, Kentucky Type-of-farming Area VII.*
- JOE R. CAMPBELL, Ph.D., Cornell, 1948. *Costs and Returns in Producing Potatoes—Northern Steuben Area, New York, 1946.*
- WALTER P. COTTON, Ph.D., Minnesota, 1948. *A Study of an Economic Adjustment of Market Milk Supplies to Needs in North Carolina, 1948.*
- GERALD ENGELMAN, Ph.D., Minnesota, 1949. *Some Economic and Physical Problems in the Marketing of Slaughter Hogs on the Basis of Carcass Weights and Grades in the United States.*
- MARVIN W. FARRELL, Ph.D., Harvard, 1949. *Land Tenure in Canadian Agriculture.*
- WYTZE GORTER, Ph.D., Stanford, 1948. *Economic Behavior and the California Orange Industry.*
- ERNEST W. GROVE, Ph.D., California, 1949. *Income Parity for Agriculture.*
- HAROLD G. HALCROW, Ph.D., Chicago, 1948. *The Theory of Crop Insurance.*
- GEORGE V. HAYTHORNE, Ph.D., Harvard, 1949. *Agriculture and the Farm Worker.*
- WERNER HIRSCH, Ph.D., California, 1949. *Economics of Integration in Agricultural Marketing.*
- J. FRED HOLLY, Ph.D., Clark, 1949. *Elizabethton, Tennessee: A Case Study of Southern Industrialization.*
- MIRZA N. HUDA, Ph.D., Cornell, 1949. *Agriculture in Eastern Pakistan: Problems and Policy.*

- EDGAR A. HYER, Ph.D., Cornell, 1948. Readjustment in Types of Farming in the Finger Lakes Region of New York.
- HERMAN B. JAMES, Ph.D., Duke, 1949. The Effects of the Mechanization of Agriculture in the Northern Tidewater Area of North Carolina.
- FRANK P. KING, Ph.D., Cornell, 1948. An Economic Study of Georgia's Agriculture—Type of Farming in Georgia.
- BALDUR H. KRISTJANSON, Ph.D., Wisconsin, 1949. Land Settlement in Northeastern Alberta.
- HENRY A. LUKE, Ph.D., Cornell, 1948. Pricing and Utilization of Milk under the New York Milk Marketing Order.
- SHIVRAM G. MADIMAN, Ph.D., Wisconsin, 1949. The Need of Institutional Changes and Regional Planning for Optimum Development of Agricultural Resources of India.
- MARTHINUS D. MARAIS, Ph.D., Harvard, 1949. Milk Marketing Problems of South Africa and the United States.
- DONALD H. MCCLELLAND, Ph.D., Harvard, 1949. The Economics of Multipurpose Development of the Connecticut River Basin.
- JOHN I. MILLER, Ph.D., Saint Louis, 1949. A Study of the Rate of Growth of Various Types of Tax Exempt Property in City of St. Louis from 1925 to 1948.
- CHARLES C. MITCHELL, JR., Ph.D., Harvard, 1949. The New Korea Company, Ltd., Land Management and Tenancy Reform in Korea Against a Background of U. S. Army Occupation.
- WALLACE E. OGG, Ph.D., Chicago, 1949. A Study of the Maladjustment of Resources in Southern Iowa.
- ZUBEDA PARPIA, Ph.D., Harvard, 1949. Land Tenure Reform in India.
- CHARLES R. SAYRE, JR., Ph.D., Harvard, 1949. The Economics of Mechanization in Cotton Production.
- RAYMOND C. SCOTT, Ph.D., Cornell, 1948. An Analysis of Frozen Food Purchases in New York Areas.
- ORLIN J. SCOVILLE, Ph.D., Harvard, 1949. Influence of Size of Farm on the Combination of Resources.
- ELMER N. SEARLS, Ph.D., Cornell, 1949. An Economic Analysis of the Marketing of Dressed Chickens by New York Poultrymen, 1946-47.
- GUILLERMO SERRA, Ph.D., Cornell, 1948. An Economic Study of Family-Sized Farms in Puerto Rico.
- J. LLOYD SPAULDING, Ph.D., Minnesota, 1949. Criteria for the Utilization of the Value Premise as an Analytical Device Examined with Special Reference to Certain Studies in Rural Land Economics.
- KENNETH WILSON, Ph.D., Iowa State, 1949. A Functional Analysis of Produce Marketing in Iowa.

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- FRED FLOYD, B.A., Mercer, 1927; M.A., Vanderbilt, 1932. A History of the Dust Bowl. 1949. *Oklahoma*.
- LEONARD W. SCHERUBEN, B.S., Kansas State, 1939; M.A., Illinois, 1940; M.P.A., Harvard, 1948. Farm Management Extension Education. 1949. *Harvard*.

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- EDWARD AMES, M.A., Harvard, 1947; M.P.A., 1947. Internal Structure of the Bituminous Coal Industry. 1950. *Harvard*.
- RICHARD B. ANDREWS, B.A., Wisconsin, 1936; M.A., Wisconsin, 1940. An Examination of the Post-War Adjustments, Trends, and Problems in the Madison, Wisconsin Housing Market. 1950. *Wisconsin*.
- RALPH L. BAKER, B.S., Ohio State, 1938; M.S., 1940. Some Factors Affecting Quantity and Quality of Eggs Sold by Certain Producers. 1949. *Iowa State*.
- OLON BARRACLOUGH, B.S., New Hampshire, 1944. Forest Land Ownership in New Eng-

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- RUSSELL W. BIERMAN, B.S., Nebraska, 1939; M.P.A., Harvard, 1946; M.A., 1947. Agriculture in the Fifth Federal Reserve District. 1950. *Harvard*.
- ARNOLD BREKKE, B.S., Minnesota, 1942. American Agriculture and the World Economy. 1950. *Minnesota*.
- VALENTINE J. BRENSIKE, B.A., Wisconsin, 1940; M.A., 1941. The A.A.A. and Subsequent Farm Programs in Wisconsin. 1949. *Wisconsin*.
- JOHN T. BUCK, M.S., Kentucky, 1947. An Economic Analysis of the Shift from Cream to Whole Milk in Minnesota Cooperative Creameries. 1950. *Minnesota*.
- FRANK A. BUCKLEY, B.S., Texas A & M, 1928; M.S., Iowa State, 1933. A Land Use Study of the San Jacinto River Watershed of Texas. 1950. *Texas A & M*.
- KEITH O. CAMPBELL, B.S., Sydney, 1943; M.A., Chicago, 1948. Agricultural Price Policy in the Australian Economy. 1949. *Chicago*.
- HAROLD B. CLARK, B.A., Berea, 1937. The Role of Farmer Cooperatives in the Marketing of Dark Tobacco in Kentucky and Tennessee. 1950. *Kentucky*.
- HUGH L. COOK, B.S., Alabama Polytechnic, 1940; M.S., 1942. Preferences and Use Practices for Dry Milks by Food Processors. *Wisconsin*.
- GERSHON COOPER, B.A., Chicago, 1942. Mobility of Labor Between Agriculture and Non-Agriculture. 1950. *Chicago*.
- JAMES A. CRUTCHFIELD, JR., B.A., California, 1940; M.A., 1942. Economics of the Pacific Coast Fishing Industry. 1950. *California*.
- RAM DAS, B.S., Agra, India, 1935; M.A., 1940. Methods of Improving Agriculture in India. 1950. *Wisconsin*.
- H. NAYLOR FITZGUGH, B.S., Harvard, 1930; M.B.A., 1933. Harlem's Medium Rental Housing Market in 1940. 1949. *Columbia*.
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EDWIN WALTER KEMMERER

*Twenty-eighth President of the
American Economic Association, 1926*

Edwin Walter Kemmerer was born in Scranton, Pennsylvania, June 25, 1875. He died in Princeton on December 16, 1945. He prepared for college at Keystone Academy, Factoryville, Pennsylvania. After receiving a Phi Beta Kappa key and an A.B. degree from Wesleyan University in 1899, he went to Cornell University for two years as a fellow. In 1903 he received his Ph.D. degree, having served as instructor in economics and history at Purdue University in the interval. His doctoral dissertation was entitled, "Money and Credit Instruments in Their Relation to General Prices," a study which helped to equip him for a career as a money specialist. His first public appointment was as financial adviser to the United States Philippine Commission (1903-06). He returned to Cornell University as assistant professor of political economy in 1906, attaining the rank of full professor in 1909. In 1912 he moved to Princeton, where he spent the remainder of his academic life. In 1928 he was appointed Walker professor in international finance and director of the newly-established international finance section at Princeton. He retired from active service in 1943.

Professor Kemmerer served as financial adviser to a number of countries in both hemispheres and formed numerous groups or commissions of experts to investigate and report on currency and fiscal reforms. These accomplishments in the field of public affairs brought him many honors. Academic honorary degrees were granted him by Wesleyan, Occidental, Oglethorpe, Rutgers, Columbia, and by many universities in Ecuador and Bolivia. Nonacademic honors and awards came from Colombia, Poland, Ecuador, and Belgium.

Professor Kemmerer became a member of the Association in 1903, served from 1907 to 1910 as managing editor of the *Economic Bulletin*, predecessor to the *American Economic Review*, and was a member of the Board of Editors of the *Review* from 1911 to 1913. The title of his presidential address in 1926 was, "Economic Advisory Work for Governments."

Most of Professor Kemmerer's publications dealt with currency reforms and the operation of monetary systems under the gold and other standards. He was an uncompromising advocate of the gold standard and such books as the *A B C of the Federal Reserve System* and *Modern Currency Reform* had a tremendous vogue. His later life was devoted to the defense of a convertible currency based on gold. He was president of the Economists' National Committee on Monetary Policy when he died. He had been one of the organizers of this Committee in 1933 and one of its most active members.

An obituary of Edwin Walter Kemmerer, prepared by four of his colleagues at Princeton, was published in the *American Economic Review*, March, 1946, pages 219-221.

Number 28 of a series of photographs of past presidents of the Association.



E. H. Kemmerer

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A THEORY OF DELIVERED PRICE SYSTEMS

By GEORGE J. STIGLER*

The debate over the merits and legality of basing point price systems began in the early nineteen-twenties and followed a leisurely course until April 26, 1948. On that day the Supreme Court outlawed the multiple basing point price system in cement, and the debate now became continuous and urgent, and sometimes disingenuous. The debate has been unusual in that the participants have commonly used the same, relatively undisputed facts to support opposite contentions. The cross-hauling of products has been interpreted by one party as a by-product of innocent competition, by the other party as evidence of collusion. The absorption of freight has been used by one party as evidence of the desire of firms to compete, by the other party as evidence of price discrimination.

If it is true that controversy over basing point prices has sometimes manufactured uncertainty, it is also true that uncertainty among economists has encouraged the controversy. No economist, so far as I know, has yet offered a satisfactory explanation for the appearance of delivered price systems. One important branch of the literature, associated with the names of Fetter and Mund and with the Federal Trade Commission, argues that basing point prices are simply a device hit upon by conspiring oligopolists.¹ The other important branch of the literature, in which de Chazeau and J. M. Clark are prominent names, argues that the basing point price system is an inevitable or highly probable development in industries characterized by heavy fixed costs, cyclically unstable demands, and oligopoly. Neither group has explained why this particular system of marketing evolved (rather than

* The author is professor of economics at Columbia University.

¹ Professor F. Machlup's recent *The Basing-Point System* (Philadelphia, Blakiston, 1949) is also in this tradition. At several points he also touches on the fundamental element of the theory to be presented in this paper (pp. 165-66, 197, 211-12), as, indeed, do most of the writers on the subject.

possible alternative systems such as division of territory) nor has either group explained why other industries which share the characteristics they stress have adopted f.o.b. and other pricing systems.²

If the explanation to be given here is correct, basing point prices represent a collusive oligopolistic policy which maximizes the oligopolists' profits under particular but not uncommon economic and legal conditions. I, therefore, accept the positive contentions of both groups and seek to reconcile them through a study of the detailed rationale of delivered price systems. After a preliminary discussion of terminology, the theory of uniform delivered prices will be sketched, tests of the theory will then be examined, and finally the major implications of the theory for economic policy will be drawn.

I. Types of Geographical Price Systems

The price a buyer pays for a delivered commodity may vary continuously with the distance of the point of delivery from the point of production, or it may vary discretely or not at all (zone price systems). The chief forms of price quotation that lead to continuously variable delivered prices are:

a. F.o.b. mill prices. The delivered price at any point equals the price at the production center at which the purchase is made plus the actual transportation charge to the point of delivery.

b. Freight equalization. The delivered price at any point equals the lowest sum of factory price plus transportation charges from any production center, even though the purchase is made at another production center.

c. Basing point. This system differs from freight equalization in that not all production centers quote mill prices.³

These distinctions are quantitative, and not generic. If transportation costs are a trifling fraction of delivered prices, all systems of variable delivered and zone prices merge.⁴ If there are mill price quotations

² Professor A. Smithies, who falls in neither group, concluded that the basing point price system did not in general maximize profits and, indeed, that it was comprehensible only under special assumptions whose relevance to the basing point industries was not demonstrated and is not obvious. See "Aspects of the Basing Point Price System," *Am. Econ. Rev.*, Vol. XXXII, No. 4 (Dec., 1942), pp. 705-26.

³ If one does not wish to treat importation points as production centers, a second general difference is that not all points of mill price quotation are production centers.

⁴ Zone prices will also emerge in a continuously variable delivered price system if transportation costs do not vary continuously with distance: for example, in the late 'thirties Douglas fir had the same transportation cost from the Pacific Northwest to all points north of the Ohio River and east of Chicago, so equality of price in this region was consistent with f.o.b. mill pricing. Such exceptions are eliminated if we define distance as economic distance.

(basing points) at all important production centers, the distinction between freight equalization and basing point prices is unimportant. If the price at one mill is equal to that at the nearest mill plus transportation cost, the former price is non-effective and a basing point system is achieved. The fundamental distinction is between f.o.b. mill and delivered price systems when freight costs are an appreciable fraction of price, and we proceed now to establish analytical criteria for this distinction.⁵

Consider first the common situation in which there are two or more firms at a production center. A firm at this center can increase its sales, relative to what they would be if the firm adhered to the same f.o.b. mill price as its rivals, by two types of price reductions: first, by price reductions within the natural territory of the center (say that defined by stable f.o.b. mill prices); and second, by absorbing freight in order to enter other production centers' territories. If the firm makes price reductions (reductions in mill-net prices) only or chiefly by absorbing freight, and never or seldom by reducing prices to customers in its natural territory, it is practicing what I shall term systematic freight absorption. If the firm frequently uses both price reductions within its territory and freight absorption, I shall term its behavior competitive.⁶ If the firm seldom makes either form of price reduction, it is presumably a participant in an agreement to divide the market and fix the price.

If there is only one firm at a production center, it can take sales from other firms only by invading their natural territories. The preceding argument still applies, but it must be restricted to the sales in areas where two or more firms are selling: it is difficult to define competitive behavior in areas where there are no competitors. The hypothetical example in Table I will illustrate this case. If Firm I practices systematic freight absorption, its mill-net price declines as it makes sales beyond its natural market limit (F); in the area of overlapping sales (say D to H) the only form of (mill-net) price reduction is through freight absorption. If the firm behaves competitively, it will reduce the delivered price at points where its mill-net price is highest (D to F in our example) in order to take sales away from Firm II, before it begins absorbing freight to enter H's natural territory; so in the area

⁵ Zone price systems will not be discussed; see, however, note 15, below.

⁶ It would be inexplicable if the firm reduced its price (relative to that of its rivals) within its territory and yet failed to absorb freight on some sales.

If the firm behaves competitively, on the above definition, its prices are indistinguishable from f.o.b. mill prices. This definition of competition is identical with that of the neo-classical theory if the latter is amended (as it should be) to incorporate the fact that on all except completely centralized exchanges the competitive firm sells at different prices to different customers in a period of price change.

of overlapping sales, I's mill-net price will not vary systematically with the point of sale.

Both situations—one and several firms at a production center—can be summarized in one definition of systematic freight absorption. A firm is practising systematic freight absorption if, at the consuming

TABLE I.—NUMERICAL EXAMPLE OF SYSTEMATIC FREIGHT ABSORPTION
(mill prices: \$50.00)

Consumption Point	Transportation Costs from		Delivered Price	Mill-Net Prices	
	Firm I	Firm II		Firm I	Firm II
A	\$ 0	\$10	\$50	\$50	\$40
B	1	9	51	50	42
C	2	8	52	50	44
D	3	7	53	50	46
E	4	6	54	50	48
F	5	5	55	50	50
G	6	4	54	48	50
H	7	3	53	46	50
I	8	2	52	44	50
J	9	1	51	42	50
K	10	0	50	40	50

points where it and one or more rivals are making sales, its mill-net price varies with the distance of the consuming point.

Systematic freight absorption occurs only under oligopoly. It involves price competition at the point of production and is therefore inconsistent with substantial competition: the mill-net price of a firm is less on sales made at delivered prices set by other mill prices (price bases) than on sales made on its own mill price, and under competition the firm would sell only or chiefly in the higher mill-net area.⁷ Nor would a monopolist with spatially separated plants practice systematic freight absorption, for this would be irrational price discrimination. He would be varying his mill-net price, not in accordance with the elasticity of the buyer's demand, but on the basis of the selection of the plant from which to ship the order.

The desirability of this definition of systematic freight absorption (and the implicit definition of delivered price systems) must be judged by its usefulness. The definition clearly suggests that the formal method

⁷ This is seldom disputed except in partisan arguments, and then only with astonishing implicit definitions of competition. One all-too-common definition of competition in this context is the policy of maximizing profits! For example, "As has been pointed out, mills at a considerable distance from a basing point have a freight advantage over other mills in selling to buyers in the territory around their mills. They behave competitively and naturally when they charge their customers a price which realizes that advantage." (U.S. Steel Corporation, *The Basing Point Method of Quoting Delivered Prices in the Steel Industry*, T.N.E.C. Monograph No. 42, p. 66.)

of price quotation is insufficient to classify an industry's geographical price system, and this is a source of difficulty in testing theories to which we shall return.

II. *A Theory of Delivered Prices*

The following analysis is restricted to industries in which (1) transportation costs are a substantial fraction of delivered price for many customers; (2) there are few firms (or few large firms) at a production center; and (3) these firms wish to (or are compelled to) collude. The firms in these industries must solve two problems: how to divide sales among the firms at each production center;⁸ and how to divide sales among production centers—in such a way as to maximize the industry's profits.

The distribution of sales among firms at a production center must be on a non-price basis if mutually unprofitable price rivalry is to be avoided: the simplest legal solution of this problem would be to use f.o.b. mill prices and rely upon non-price competition to divide sales among firms.⁹ Any delivered price system is slightly inferior for this purpose because it requires additional calculations and therefore gives rise to additional errors and sources of misunderstanding among the firms. There have been many quarrels in the basing point price industries over rounding off numbers at different decimal points, the uncertainties of land-grant freight rates on purchases by the federal government, trucking and water transportation, etc. But the inferiority of the delivered price system is only slight.

The second problem, the division of sales among production centers, could also be solved by f.o.b. mill prices,¹⁰ were it not for one characteristic of demand, which on our theory is the fundamental requirement for a uniform delivered price system. This characteristic of demand is that it is geographically unstable, *i.e.*, the proportion of national or regional sales made in each consumption center is subject to substantial fluctuations. If a production center were to make all its sales within a given area, it would often be in a state of feast or famine relative to the industry.

With an unstable geographical pattern of demand, f.o.b. mill pricing

⁸ Our primary interest is in the case where there are two or more firms at each of the important production centers because this appears to be more important empirically. It is one of the minor mysteries of the basing-point literature that almost all the analysis has been devoted to the case where there is only one firm at each production center.

⁹ Several illegal systems, such as quotas or a joint sales agency plus quotas, might be more efficient. In the markets for homogeneous raw materials, however, non-price competition is not likely to become very expensive.

¹⁰ Or by division of market areas—which indeed would be the effect of a stable system of f.o.b. mill prices.

would have one of two consequences in industries making non-storeable products. The firms at a production center might maintain stable prices (relative to other production centers), and then fluctuations in their rate of output would be large.¹¹ Not only would this unstable rate of production raise the costs of producing given outputs, but it would put a severe strain on the agreement among the firms: some firms would be losing money while other firms (perhaps multiple-plant firms with a plant in the same production center) were prospering. Or, alternatively, the price at the production center would fluctuate in response to changes in demand: rising high in feast periods to attract output from other production centers; falling low in famine periods to permit sales in other territories. This sort of unpremeditated flexibility of mill prices would make it extremely difficult to maintain collusion among firms at the production center, and even more difficult to maintain collusion between firms at different production centers.

These objections to f.o.b. mill pricing lose some weight if the product is storeable. Then stable rates of production may be reconciled with unstable rates of sale, through inventory adjustments. Yet inventory adjustments are not likely to eliminate the problem. If the product comes in many sizes and qualities, inventories would have to be enormous: for example, the specifications for steel products are so various that inventories do not provide a feasible method of meeting local fluctuations in demand.¹² The method of inventory adjustment is completely satisfactory only if fluctuations in the geographical pattern of demand cancel out quickly.¹³

If collusion could be complete—if the practices of a monopolist could be adopted—f.o.b. mill pricing would still be possible. The oligopolists could establish a joint sales agency, which would refer each order to the firm whose rate of production and distance from the buyer made it the most profitable source from which to fill the order. The group could compensate firms whose outputs were small in a given period at the cost of firms whose outputs had been large. A joint sales agency, however, is as easily detected as it is illegal under our antitrust laws.

Systematic freight absorption provides a satisfactory solution to all these problems. There is a single price at each point in the market (if

¹¹ At times the output of the production center would have to be impossibly large: for example, some large Western construction projects simply could not have been supplied within the permitted time by Western steel and cement capacity.

¹² It is interesting to notice that the cement industry considers its product to be perishable; see *Argument of George S. Leisure* (New York, Grosby Press, 1942), pp. 77-78.

¹³ If the aggregate demand for the product of the industry is also cyclically unstable, there is an additional objection to the method of inventory adjustment. Inventories will be accumulated in regions in which recession first occurs, in the belief that this recession is an instance of geographical instability.

transportation charges are agreed upon), so price rivalry is eliminated. One production center can sell in the "natural" territories of other production centers when this is necessary to obtain its share of the industry's sales; these distant sales involve freight absorption, moreover, and are therefore partly self-limiting. The various prices need not change often, so collusion is possible. Given the unstable geographical pattern of demand and the antitrust laws, systematic freight absorption permitted efficient collusion.

Cross-hauling (simultaneous and geographically overlapping shipments from various production centers) is commonly held to be an important by-product of systematic freight absorption. It is difficult to see why cross-hauling should arise because of the inherent nature of the system: production center A will be selling in the area of production center B only when it cannot sell its share of the industry's sales in its own area, and, therefore, when B will not be selling in A's territory. Some cross-hauling will occur because of the variable time interval between orders and deliveries; this type of cross-haul would also exist under competition and probably under monopoly. Some cross-hauling will also occur because of the desire of firms to keep sales agencies in important markets, and this type of cross-haul (with more shipping of products and less of salesmen) is attributable to oligopoly. One would not expect cross-hauling to be a major waste under systematic freight absorption, however, and there is no empirical evidence that contradicts this expectation.¹⁴ This is not to say that a system of distribution designed to insure a stable share of total sales for each production center will be efficient from the social viewpoint, for it will not be.

The choice by the industry between freight equalization and a basing point system will be determined primarily by the nature of the production centers. If the production centers are well separated, freight equalization is simple and satisfactory. If production centers are spread out, so the firms at a center are not equi-distant (in terms of transportation costs) from the important consumption centers, a basing point system will eliminate numerous minor complexities that would arise under freight equalization. The distinction between the two systems, however, is less significant and durable than that between f.o.b. mill and delivered prices.¹⁵

¹⁴ Some writers use "cross-hauling" to describe all wastes in transportation (given the location of the mills); see Federal Trade Commission, *Price Bases Inquiry* (Washington, 1932), Chap. VIII. The issue is largely terminological, but the measures of the uneconomic movement of goods—it was assumed by the Federal Trade Commission that freight absorption measures this movement—are seriously deficient.

¹⁵ The theory will not be elaborated to consider plant location, number of price bases, inter-base differentials, etc. In general, the more unstable the geographical pattern of demand the fewer will be the production centers (since each firm will locate where it can sell in many territories) and the fewer will be the base prices. Single base prices will be

TABLE II.—CONTRACT AWARDS FOR REINFORCING STEEL BARS, 1936*
(in tons)

Region and State	Quarter			
	First	Second	Third	Fourth
Northeastern States				
Connecticut	750	750	100	660
Maine	0	0	200	0
Massachusetts	1,276	2,005	2,908	3,315
New Hampshire	0	0	100	0
New Jersey	1,760	1,755	2,826	2,270
New York	15,340	4,200	14,088	4,169
Pennsylvania	6,400	5,700	425	950
Rhode Island	1,010	0	500	100
Vermont	0	0	150	240
North Central States				
Illinois	10,768	6,406	13,670	5,755
Indiana	700	920	1,325	800
Iowa	0	0	0	625
Kansas	1,700	350	0	0
Michigan	3,150	0	600	400
Missouri	2,855	925	1,375	750
Ohio	650	2,950	715	2,000
Wisconsin	945	1,550	985	653
Western States				
Arizona	525	528	0	0
California	43,874	31,901	30,185	20,039
Colorado	1,128	8,412	4,343	7,356
Idaho	122	0	125	518
Montana	15,891	726	3,575	152
Nevada	100	681	0	502
New Mexico	197	697	0	1,255
Oregon	100	1,315	0	124
Utah	0	0	0	280
Washington	4,509	2,282	706	117
Wyoming	357	389	597	0
Southern States				
Delaware	0	250	0	0
Kentucky	0	750	500	0
Maryland	2,700	0	0	0
Tennessee	0	0	300	0
Washington, D.C.	2,500	0	1,365	0
West Virginia	0	0	360	0

* Compiled from *Iron Age*, 1936.

used when a single production center is so large that it must often sell in every territory and other production centers are accordingly so small that they seldom need to sell to or past the dominant production center. (Obviously, if almost all production takes place at one center, there can be no systematic freight absorption or, for that matter, a problem of geographical prices.) Geographically unstable demand may lead to zone prices if transportation costs are not uniquely determinable; some of the late nineteenth century pools may be examples.

The system of formula differentials between prices of multiple products provides close analogies to systematic freight absorption.

III. *Testing the Theory*

We shall briefly discuss tests of the foregoing theory that create some presumption for its validity and then suggest further tests which have not been carried out.

Industries providing materials for large construction projects are likely to have geographically unstable demands; indeed this expectation gave rise to the theory. A sample investigation of contract awards for reinforcing steel bars, summarized in Table II, amply confirms the expectation.¹⁶ The instability is more clearly brought out by the

TABLE III.—PERCENTAGES OF UNITED STATES CONTRACT AWARDS FOR REINFORCING STEEL BARS IN LEADING CONSUMING STATES, 1936

State	Quarter			
	First	Second	Third	Fourth
California	36.8	42.3	36.8	37.8
Colorado	.9	11.2	5.3	13.9
Illinois	9.0	8.5	16.7	10.9
Massachusetts	1.1	2.7	3.5	6.3
Montana	13.3	1.0	4.4	.3
New York	12.9	5.6	17.2	7.9
Pennsylvania	5.4	7.6	.5	1.8

percentage distribution of contract awards among the important consuming states (Table III).¹⁷ The longer-term instability of demand is also implicitly illustrated by these tables: for example, California consumed almost four-tenths of the bars but had less than one-fifteenth of the industry's capacity to produce bars, while the chief producing states (Pennsylvania, Ohio, and Illinois) consumed relatively little.¹⁸

It was argued above that f.o.b. mill prices would have to be very flexible relative to one another in order to reflect the shifting locus of demand and thus permit the sales areas of production centers to expand and contract—so flexible, in fact, as to make collusion impracticable. We may test this view by a comparison of prices in a period of f.o.b. mill

¹⁶ The data exaggerate the short-run geographical instability of demand because they include only contracts for 100 or more tons, which are no doubt less stable geographically than the smaller orders. The awards cannot be compared accurately with total production because of the unknown time lags in filling orders, but it appears that about 35 per cent of total sales in this period are accounted for by these contracts.

¹⁷ Monthly contract awards, of course, show much greater instability. The correct time period for our theory will vary with the industry (being longer if inventories are possible) and with the variance of the time interval between orders and deliveries. It is interesting to notice that the California tonnages become much more erratic if the quarters are shifted back one week: 41,351; 15,969; 46,360; and 21,804 respectively.

¹⁸ See *Directory of the Iron and Steel Works of the United States and Canada, 1938* (New York, American Iron and Steel Institute, 1938), p. 441.

pricing with those under basing point pricing (Table IV). Unfortunately, the same commodities cannot readily be used for both periods, but each seems representative of its period for the question in hand;¹⁹ in both periods the demand for steel was rising. The comparison is qualified by the unknown amount of collusion in the earlier period and by

TABLE IV.—COMPARISON OF STEEL PRICES IN THREE MARKETS
1898-99, 1939-40^a

Market	1898-99 Steel Billets	1939-40 Steel Bars
Pittsburgh		
Possible price changes	51	103
Price changes	27	1
Philadelphia		
Possible price changes	51	103
Price changes	38	1
Chicago		
Possible price changes	48	103
Price changes	21	1
Pittsburgh-Philadelphia Differential		
Possible changes in differential	51	103
Changes in differential	39	0
Pittsburgh-Chicago Differential		
Possible changes in differential	48	103
Changes in differential	34	0

^a Based on Tables A and B, appendix.

the uncertainty of the significance of quoted prices in both periods. Nevertheless, the prediction of the theory is dramatically confirmed as to both the frequency of price changes with f.o.b. mill and basing point prices and the stability of differences between prices at different production centers.²⁰

Still another type of test of the theory is provided by changes in the behavior of basing point price industries in periods when the demand for their products is geographically stable: the theory predicts that systematic freight absorption will diminish. Steel has had such a demand stability in the postwar years because the industry has been practicing non-price rationing of buyers: the individual plant can sell all it wishes at its mill-net price. The prediction of the theory is fully confirmed:

¹⁹ Billets had a much broader market in the earlier period, when vertical integration had not progressed so far.

²⁰ The collusive character of inter-base price differentials in the later period is shown in detail by de Chazeau; see D. R. Daugherty, M. G. de Chazeau, and S. S. Stratton, *Economics of the Iron and Steel Industry* (New York, McGraw-Hill, 1937), Vol. 2, Chap. XIII.

Since the war almost all mills have stopped selling some products in certain distant markets and some mills have withdrawn on all products from some areas. . . .

In today's seller's market it is actually possible for a steel company to reduce its freight bill in the face of rising freight rates by careful choice of customers and market areas. . . .

Other f.o.b. mill sales are less obvious but it is known that some customers have been able to buy on f.o.b. mill pricing where it was a case of no discrimination; where the customer realized he was outside a mill's present market area and specifically asked for an f.o.b. mill price so as to get steel. Not all mills will sell this way.²¹

The practice of quoting an arbitrary Detroit base was also abandoned.²²

The instability of the geographical pattern of demand in cement has been emphasized by the industry,²³ and it is documented by the geographical instability of concrete paving work and large construction projects.²⁴

Our theory predicts that in industries with unstable geographical patterns of demand, the relative distribution of production among production centers will be more stable than the relative distribution of consumption under a basing point price system, whereas the two distributions would be about equally unstable with f.o.b. pricing.²⁵ Were it not for the merging of the market areas of individual mills in the reports of the Bureau of Mines (no doubt because of disclosure prohibitions), it would be possible to compare exactly the relative stability of consumption and production in each mill area. The best that can be done with the published data is to make such a comparison for certain adjoining states (Illinois, Iowa, Kansas, and Missouri).²⁶ The percentage of aggregate production and consumption (in the four states) has been calculated for each state for the period 1921 through 1940,

²¹ *Iron Age*, May 13, 1948, pp. 119-20; see also *New York Times*, December 6, 1947, p. 23.

²² Jones and Laughlin withdrew sheets and strip, and Republic and Carnegie-Illinois withdrew alloy bars, from the Detroit arbitrary base, *Iron Age*, May 13, 1948, p. 120.

²³ See *Aetna Portland Cement Company et al. v. Federal Trade Commission*, in the United States Circuit Court of Appeals of the Seventh Circuit, October Term, 1945, Appendix A to Brief of Respondents-Petitioners, pp. 80 ff.

²⁴ For data on city and state paving (in which one-fourth of all cement is normally used), see annual issues of *Cement and Concrete Reference Book*.

²⁵ Provided the inter-base price differentials were stable, as they appear to have been in cement; see Federal Trade Commission, *Cement Industry* (Washington, 1933), Exhibit Tables 9 and 10.

²⁶ Each of the states has four to six mills. Indiana is not reported separately; this distorts our analysis because it is the leading source of the Chicago market (indeed an Indiana mill is the base that sets the Chicago price). See annual issues of *Minerals Yearbook*.

and the coefficients of variation of these percentages are tabulated below:

State	Coefficient of Variation	
	Per Cent of Aggregate Production	Per Cent of Aggregate Consumption
Illinois	7.5	11.0
Iowa	12.2	19.6
Kansas	12.7	20.4
Missouri	5.9	15.1

In each state relative consumption was more variable than relative production, as the theory predicts.

Our theory makes collusion a requirement for a delivered price system. In industries where there are few large firms, collusion (whether tacit or overt) or coercion is usually more profitable to every large firm than price competition. Therefore, however proper the legal principle that the defendant is presumed to be innocent of conspiracy, it has no place in economics. Indeed the presumption is the opposite: it is more appropriate for the economist to ask why oligopolists compete as often as they do.

In the cement and steel industries, the evidences of overt collusion are ample. The basing point price system was put on a firm basis in the steel industry under Judge Gary's iron-hand-in-velvet-glove regime, and it was greatly strengthened under the N.R.A. The testimony in the cement case contains many instances of overt collusion. Foreign experience in these industries reinforces the conclusion that collusion is necessary to delivered price systems. The German cement industry was on a f.o.b. mill price system until a cartel was formed, after which it used delivered prices.²⁷ The German steel cartel used a basing point system,²⁸ and the English steel industry abandoned f.o.b. mill pricing for a delivered price system in the nineteen-twenties, after amalgamation and federation had proceeded far.²⁹

The bituminous coal industry supplies some excellent illustrations of

²⁷ K. Ehrke, *Übererzeugung in der Zement Industrie von 1858-1913* (Jena, Gustav Fischer, 1933), pp. 14-15, 161.

²⁸ See *Die Deutsche Eisenerzeugende Industrie*, in *Ausschuss zur Untersuchung der Erzeugungs- und Absatzbedingungen der deutschen Wirtschaft* (Berlin, E. S. Mittler, 1930). A joint sales agency was used, but the collusion was not complete. Each of the large firms maintained a sales organization because, in the words of F. Thyssen, "one fine day the cartel could go up in air . . ." (*ibid.*, p. 315).

²⁹ See D. L. Burn, *The Economic History of Steelmaking, 1867-1939* (Cambridge, 1940), p. 377.

the role of collusion.³⁰ In the United States, coal was sold f.o.b. mine when the industry was not regulated; under the National Bituminous Coal Act of 1937, delivered prices were set and limited freight absorption was permitted and in some circumstances phantom freight required.³¹ In Great Britain the development was parallel: f.o.b. mine prices were used before the compulsory cartelization of 1930; thereafter the industry moved toward a delivered price system.³² The highly developed Rhenish-Westphalian syndicate was able to act like a monopolist for it had control over the marketing of all coal in the "uncontested" areas, and it set f.o.b. mine prices.³³

Delivered price systems have been alleged or shown to exist in cast iron pipe;³⁴ rigid steel conduit;³⁵ various kinds of lumber;³⁶ copper, lead, and zinc;³⁷ plaster and lime;³⁸ plate glass;³⁹ floor and wall tiles,⁴⁰ and numerous other industries.⁴¹ Some of these industries very probably have unstable geographical patterns of demand, for example, cast iron pipe, rigid conduits, and building materials.⁴² In other of these

³⁰ The geographical pattern of demand for coal is apparently much more stable than that of steel and cement, but this is offset by the greater density of producing centers. On the pattern in Germany, see Johannes Schröder, *Der Absatzraum der Ruhrkohle* (Gieszen, Otto Kindt, 1929).

³¹ R. H. Baker, *The National Bituminous Coal Commission* (Baltimore, Johns Hopkins University Press, 1941), pp. 140-41, 157, 193-94.

³² See the annual survey numbers of the *Iron and Coal Trades Review*, for example, January 15, 1937, pp. 90-91; January 21, 1938, pp. 82-83.

³³ See J. H. Jones, G. Cartwright, and P. H. Guenault, *The Coal-Mining Industry* (London, Pitman and Sons, 1939), pp. 274-75. The Belgian cartel used a multiple basing point price system (*ibid.*, pp. 227-28).

³⁴ Clair Wilcox, *Competition and Monopoly in American Industry*, T.N.E.C. Monograph No. 21, p. 157.

³⁵ *Triangle Conduit and Cable Co. v. Federal Trade Commission*, 168 Fed. 2d 175 (1948).

³⁶ T.N.E.C. Monograph No. 33, *Geographical Differentials in Prices of Building Materials*, Chap. XIII; A. R. Burns, *The Decline of Competition* (New York, McGraw-Hill, 1936), pp. 291 ff.

³⁷ F. A. Fetter, *The Masquerade of Monopoly* (New York, Harcourt Brace, 1931), Chap. XIV.

³⁸ T.N.E.C. Monograph No. 33, Chaps. IV, VII.

³⁹ U.S. Tariff Commission, *Plate Glass*, Report 110, Second Series (Washington, 1936), p. 25.

⁴⁰ U.S. Tariff Commission, *Earthen Floor and Wall Tiles*, Report 141, Second Series (Washington, 1941), pp. 86 ff.

⁴¹ There is also some evidence of the equivalent of delivered price systems on the buying side in the cottonseed industry (Federal Trade Commission, *Report on Cottonseed Industry* [Senate Doc. 209, Part 13, 71st Cong. 2d Sess.], esp. pp. 15,823 ff.) and in the buying of crude petroleum and iron scrap.

⁴² The wire rope industry also shares this demand characteristic; see *Study of Pricing Methods* (Hearings pursuant to S. Res. 241 [the so-called Capehart Committee], pp. 311-12).

industries it is doubtful that freight absorption is systematic.⁴³ The one industry in which it seems probable that the geographical pattern of demand is stable and yet delivered prices are adhered to is beet sugar; I have not been able to establish definitely that it is an exception.⁴⁴

Other tests of the theory, which have not been undertaken, can easily be suggested. Pig iron was sold f.o.b. mill before the N.R.A., thereafter, it was sold on a basing point system. According to our theory, this change is due to increasing oligopoly or increasing instability of demand. It is said that cement was sold f.o.b. mill on the Pacific Coast; if true, this case has similar implications to be tested.

The most general and satisfying test would be provided by a general measurement of the geographical instability of demand in oligopolistic industries, which could be compared with the pricing practices of these industries. If the industries with relatively unstable geographical demand patterns used chiefly delivered prices, and those with stable geographical demand patterns chiefly f.o.b. mill prices, it could not be doubted that the theory contains a large element of the correct solution.

This test does not seem feasible with the data now published. The most promising source of information on demand patterns is the quarterly reports on terminations of classes of railroad freight by states.⁴⁵ Unfortunately, this series does not extend back of 1940 (except by broad geographic areas); it lumps together wide classes of commodities; and often the state is too large a unit. The other serious problem, already referred to, is the inconclusiveness of the formal method of price quotation. The data necessary to measure the geographical instability of demand and the extent of systematic freight absorption exist in the sales ledgers of the firms, to which the academic investigator cannot always obtain access.

⁴³ In copper, for example, the existence of a single basing point is doubtful. Most refineries are near New York, most consumers in New England. "The quotation is almost always on a delivered basis—that is, the seller pays the freight to the buyer's plant. Sellers are willing to sell f.o.b. refinery, however, should the buyer so desire." E. H. Robie, "The Marketing of Copper," *Engineering and Mining Journal-Press*, April 21, 1923, pp. 704-9, quotation at p. 707.

⁴⁴ Corn sirup is also mildly troublesome. It was long quoted on a single base (Chicago). The geographical pattern of demand appears to be stable, at least in the short run. One is tempted to explain the single base by the geographical concentration of production and consumption. Over half the corn sirup is made in Illinois and most of the remainder in neighboring states. The chief demand for corn sirup is in candy and confectionery, and 30.5 per cent of the candy was made in Illinois in 1939 and only 8.2 per cent in all the other states producing large amounts of corn sirup. (See *Census of Manufactures, 1939*.) The Chicago base price therefore involved only a small amount of irrational (profit-reducing) price discrimination, and simplified the price structure.

⁴⁵ Interstate Commerce Commission, Tons of Revenue Freight Originated and Tons Terminated in Carloads by Groups of Commodities and by Geographic Areas (Statement No. Q-550 [S.C.S.]).

IV. *Conclusion*

If our theory of delivered prices is correct, we may easily dispose of the chief criticism that is made of the cement decision: that it will divide the nation into many local monopolies. Quite aside from the fact that this statement is wholly ambiguous (in that it tells us nothing of how strong these local monopolists will be), it is simply wrong because it overlooks the normal instability of demand in these industries. The individual plant cannot operate efficiently with an unstable demand in the area of its production and must therefore frequently invade other plants' areas.

The immediate effect of f.o.b. mill pricing in a period of non-price rationing is of course to increase the revenues of firms which have been absorbing freight.⁴⁶ With the restoration of price rationing and the customary geographical instability of demand, f.o.b. mill pricing will require a flexibility of prices that will often be beyond the reach of colluding oligopolists, so we may expect more frequent outbreaks of price competition. A period of increasing price competition may lead to either further mergers or alternative forms of collusive marketing, or to increasingly competitive behavior of these industries. The relative probabilities of these two outcomes depend chiefly on other and more fundamental elements of our antitrust policy than the prohibition of price discrimination.

⁴⁶ The steel industry also raised its mill prices at the time it shifted to f.o.b. mill pricing: semi-finished products rose 10 per cent and finished products 20 per cent from May to July, 1948 (*Steel*, January 3, 1949, p. 303).

APPENDIX

TABLE A.—PRICE OF STEEL BILLETS AT PHILADELPHIA, PITTSBURGH, AND CHICAGO, 1898-99^a
(per ton)

Date	Price			Excess over Pittsburgh Price	
	Pittsburgh	Philadelphia	Chicago	Philadelphia	Chicago
1898 July 6	\$14.50	\$16.50	\$16.25	\$2.00	\$1.75
13	14.50	16.50	16.25	2.00	1.75
20	14.50	16.50	15.75	2.00	1.25
27	14.50	16.50	15.75	2.00	1.25
August 3	14.50	16.25	15.75	1.75	1.25
10	15.25	17.00	16.00	1.75	.75
17	15.90	18.00	16.50	2.10	.60
24	16.00	17.75	16.50	1.75	.50
31	16.00	17.75	17.00	1.75	1.00
September 7	16.00	18.00	17.50	2.00	1.50
14	16.00	17.75	17.50	1.75	1.50
21	16.00	18.00	17.00	2.00	1.00
28	16.00	17.75	17.00	1.75	1.00
October 5	15.75	17.75	17.00	2.00	1.25
12	15.50	17.75	17.00	2.25	1.50
19	15.50	18.00	17.00	2.50	1.50
26	15.50	17.75	17.00	2.25	1.50
November 2	15.15	17.25	17.00	2.10	1.85
9	13.60	17.25	17.00	1.25	2.00
16	14.85	17.00	17.00	2.15	2.15
23	15.25	17.00	17.00	1.75	1.75
30	15.25	17.00	17.00	1.75	1.75
December 7	15.50	17.25	17.00	1.75	1.50
14	16.00	17.25	17.50	1.25	1.50
21	16.00	17.35		1.35	
28	16.25	18.50	17.50	2.25	1.25
1899 January 5	16.25	18.55	17.50	2.30	1.25
11	16.50	18.90	18.25	2.40	1.75
18	16.50	19.50	18.50	3.00	2.00
25	17.25	19.10	18.50	1.85	1.25
February 1	17.25	19.25	18.50	2.00	1.25
8	17.25	19.50	18.50	2.25	1.25
15	18.00	20.50	20.00	2.50	2.00
22	19.50	22.00	21.00	2.50	1.50
March 1	22.00	24.00	23.00	2.00	1.00
8	23.50	25.50	23.50	2.00	0.
15	25.50	26.00	24.00	.50	-1.50
22	25.50	26.00	25.50	.50	0.
29	25.00	26.50	25.50	1.50	.50
April 5	25.00	28.00	25.50	3.00	0.50
12	25.50	27.50	25.50	2.00	0.
19	25.50	27.50	25.50	2.00	0.
26	25.50	28.00	25.50	2.50	0.
May 3	26.00	27.50	25.50	1.50	-0.50
10	26.00	28.50	27.50	2.50	1.50
17	27.00	29.00	28.00	2.00	1.00
24	28.00	29.75	28.50	1.75	.50
June 1	29.00	30.50		1.50	
8	30.00	31.00	32.00	1.00	2.00
14	31.50	31.50	32.50	0.	1.00
21	31.50	34.00	34.00	2.50	2.50
28	31.50	34.00		2.50	

^a Compiled from *Iron Age*.

TABLE B.—PRICE OF STEEL BARS AT PITTSBURGH, PHILADELPHIA, AND CHICAGO, 1939-40^a
(per pound)

Date	Price			Excess over Pittsburgh Price	
	Pittsburgh	Philadelphia	Chicago	Philadelphia	Chicago
1939 January 7	2.25	2.57	2.25	.32	0.
...					
...					
May 13	2.25	2.57	2.25	.32	0.
May 20	2.15	2.47	2.15	.32	0.
...					
...					
December 23	2.15	2.47	2.15	.32	0.
1940 ...					
...					
December 28	2.15	2.47	2.15	.32	0.

^a Compiled from *Steel*; no price changes in unreported weeks.

THE PROBLEM OF CAPITAL ACCUMULATION

By ERNEST H. STERN*

I

The net investments of each year, that is the net additions to the stock of durable equipment capable of producing goods or services, add to our productive capacity and, generally, to output. That growth requires that income, the measure of demand, should grow along with net investment if the existing balance between total supply and total demand is to be maintained. Credit is due to Professor Evsey D. Domar for having directed attention to the dynamic effect of investment.¹ If the net investments (I) of each year are α per cent of the output of that year, and their capacity to produce were s per cent of the net investments of each year, our total capacity to produce and, if all the capital stock were employed, our total output would rise at an annual rate of αs per cent. The Keynesian thesis, on the other hand, made any increase of income dependent on, and corresponding with, an increase of investment over the investment in the preceding period. According to that thesis, the income and therewith total demand grows at the rate of $K\Delta\alpha$ per cent where K is assumed to be a fairly stable factor dependent on the consumption and saving habits of a society. From the Keynesian thesis it follows that if $\Delta\alpha$ is zero, income will not rise, although α and therewith αs may be quite substantial, while from Domar's thesis it follows that output capacity and possibly output continue to rise, because α and s remain positive magnitudes, though they may not increase and may even decline. If both theses were unequivocal, the economy would be forever under the threat of the output capacities outrunning income and total demand.

This fear has haunted Domar in his article on "The Problem of Capital Accumulation" in the December 1948 issue of this *Review*. In this article he poses two main questions, *viz.*: (a) Whether income can rise at the rate of αs , and (b) If it can, whether it will so rise.

He maintains that the failure so to rise would render capital accumulation excessive, deter further investment and thereby cause unemployment. Domar is in doubt whether income can rise at the rate of

*The author is economist of Union Corporation Ltd., London, England.

¹"Capital Expansion, Rate of Growth and Employment," *Econometrica*, Vol. 14, No. 2 (Apr., 1946), pp. 137-47. "Expansion and Employment," *Am. Econ. Rev.*, Vol. XXXVII, No. 1 (Mar., 1947), pp. 34-35.

αs , is therefore pessimistic as to the maintenance of full employment, but confesses that he can give no clear answer. He raises the question, but hardly examines it. However, in order to be able of applying himself to the second question, whether income will rise at the rate of s , he assumes for the sake of argument that question (a) were answered in the affirmative. His article centres therefore in his second question, whether income *will* rise at the rate of αs . Once more, Domar evades the answer. In fact, he hardly examines even this question. He only indicates that his reply is probably negative by stating that "existing institutional conditions" do not allow the volume of investment that is needed to keep pace with an output growing at the same rate of αs . He does not define these "existing institutional conditions." Instead, he puts forward a suggestion which falls into the realm of economic policy. He suggests that the supposed investment impeding influence of the "existing institutional conditions" could be overcome by the government guaranteeing that "for some time to come" income would grow at the αs rate. The mere guarantee would induce entrepreneurs to undertake the required volume of investment so that income would actually grow at the required rate of αs and the guarantee need never be put to the test. So far Evsey Domar.²

It will be the burden of this article to show that the problem of excessive accumulation of capital is quite different from that envisaged by Domar and that the reasons for the instabilities of income and of demand and employment and the magnitudes of the instabilities cannot be found in the fields where Domar searched for them; they may well be found in other fields. The useful conception of αs as the rate of growth of output is not abandoned, but it will be given a wider interpretation.

It would be easy to refute Domar by taking advantage of his many assumptions as to the nature of the economy. Throughout his article he uses output and income as synonymous and also investment and saving. This is of course the proper assumption if one looks back on the preceding period. In retrospect, output and income or net investment and net saving are synonymous and equal. Therefore, in retrospect the rate of growth of income is equal to the rate of growth of output, both being αs . The equalisation may have been brought about by various means, one of which may be the writing down of not fully employed capital equipment, which reduces both the magnitude of α , the latter being conceived as net after depreciation of all capital stock, and the magnitude of s , which is affected by any under-employment. Taking

² In the concluding section of his article and in an appendix Domar takes issue with Paul Sweezy on the latter's theory of underconsumption. This controversy does not directly concern Domar's argument that capital accumulation will become excessive if income grows at a smaller rate than the capital stock. This writer will therefore take no part in it.

advantage of those assumptions of Domar's one could easily prove that income always grows at the rate of αs and that both his questions are answered in the affirmative. In conditions as described by Domar, the problem of excessive capital accumulation would never arise.

The cold fact, however, remains that at times certain parts of output cannot be sold at the traditional or otherwise anticipated profits, or are assumed to become unsalable at those profits or any profits at all and that, in consequence, investments hitherto undertaken to cater for more of such output will no longer be undertaken. As a further consequence, the total of the annual investment no longer grows at the previous rate. $\Delta I = Y\Delta\alpha$ may become zero or even negative. In that case income (Y) being $KY\Delta\alpha$ would stagnate or even decline, whatever the magnitudes of K and Y , which by definition are positive. In that case there is a danger that output in terms of traditional prices and costs, unchanged in its composition and still rising at the rate of αs would tend even more to exceed the demand for it as money income tends to remain stagnant or even to decline. The equalisation of output and income will be enforced by the process of part of the output not being realised at the anticipated prices. This reduces the opportunities for certain types of investment, *but not for all investments*.

It is obvious that such a forceful downward adjustment need not occur, if two changes were made, *viz.*:

1. If the composition of output—in terms of money—were changed.
2. If the composition of αs —in terms of money—were changed, and changed in a manner that the product αs would decline although the factor α would increase, enabling $\Delta\alpha$ to remain positive and allowing income (Y) being $KY\Delta\alpha$ to continue to rise.

Domar has barred his way to examining these possibilities by a few more propositions in his paper, which are most unreal. These propositions are: (a) take no account of relative price changes;³ (b) regard α as constant;⁴ (c) regard s as constant.⁵

³ "Nothing was said about the possible effects of relative price changes (or other factors) on the magnitudes of s and α " (*op. cit.*, p. 781). Not only were these effects on α and s excluded from the examination of the problem, but no effects of price changes were considered at all throughout the paper.

⁴ This proposition is stated in a somewhat ambiguous way. At first, it is put as "Its refusal (*i.e.*, the refusal of α) to adjust itself to changes in the volume of investment, so as to assure continuous employment" (p. 779). All I can read into this statement is that α , on this occasion conceived as the money savings rate, *i.e.*, the unspent money income as a ratio to the money income received, that this kind of α may change but at a lower speed than the investment rate, the latter being the ratio of net new capital goods to net output. In other words, it suggests that the money savings rate is relatively constant as compared with the more volatile investment rate. This would be in contradiction to the use of α as synonymous with the investment rate.

Ambiguous as this passage is, it is later followed by an additional assumption that α is in fact fairly constant at 10-12 per cent of money income and of output and this magnitude is made the basis of further conclusions.

These propositions are the crux of the problem. Domar came close to realising it when, as quoted in footnotes below, he explained that "if s can be anything, our argument falls through." This would have been an opportunity to investigate whether s is changeable, and if it were found changeable, to give up the argument. If constancy in all three fields, *i.e.*, of price relations, of the investment rate and of the marginal capital productivity rate, is assumed, then indeed capital accumulation is bound to be excessive before long. However, what grounds have we in a "private capitalist economy in which the government plays a minor part"—another of Domar's propositions—to assume constancy in those three respects? Let us examine the facts. Right from the beginning we will state that "inertia" is a powerful factor in every society whether the latter is of the "private capitalistic" type or of the government directed type. It is an attribute of all human societies. Consequently, changeability and adjustability are impeded in every society. As a matter of fact, the case for government direction or government intervention is based on the supposed ability of government to either provide adjustability or to compensate for lack of sufficient adjustability.

Having admitted the power of inertia in society whatever the latter's organisation, we can proceed to examining whether and in which way changeability of the three factors enumerated above would effect the problem of capital accumulation becoming excessive.

II

The proposition to disregard changes of relative prices is in contrast with the fact that they are of the very essence of economic life, indeed some of its purpose. Whether we think in terms of money output, money income and investment values, or in terms of "real" output, "real" income and "real" investment, the uneven rates of growth of output of the manifold individual commodities and services lead of necessity to an uneven development of marginal values of each one of them in relation to all the rest. It would be a strange accident, never observed and not to be expected, if all the demand and supply schedules of every commodity and service had identical shapes. As they have not, man tries by his work and by his saving to increase the output of those whose marginal value is high, in preference to those whose marginal value is low. Capital accumulation becomes excessive not because income falls short of output—which is a contradiction—but because the

* This proposition is clearly stated on page 779. "The assumption of a stable s is necessary." A few lines previously it was stated as follows: "While strictly speaking, we shall treat s as a given constant, it need not be so. It is certainly not the same among various firms and industries. The national average (if such exists) can be made a function of time, interest rate, or of something else. But it must have some stability, because if s can be anything, our argument falls through and we are back at the Knight-Simons proposition."

accumulating capital is of a kind that the output it produces is, or threatens to be, of declining marginal value. That decline may be due to the shape of the demand schedules of the goods produced or to the shape of the supply schedules of the factors of production. Lest it be forgotten—as Domar forgot—when speaking of capital accumulation becoming excessive, we are dealing with values (measured in whatever money is used) and not with volumes of equipment. If it could be arranged that a falling demand schedule would be matched by correspondingly changing supply schedules of the factors of production or, in other words, if falling prices such as are necessary to meet a demand in the course of saturation were matched by reduced costs which in themselves do not reduce demand, in that case capital of a particular kind could continue to accumulate, without becoming excessive. It is never the case that all and every kind of capital becomes excessive, but only a particular kind of capital or groups of particular kinds. All this is old stuff, but wants re-stating. Lack of price and cost flexibility is at the root of capital accumulation becoming excessive. The decline of income (and employment) is not caused by total income falling behind output or even behind output capacity, but by the fact that the change in the composition of both output and income falls behind the changes in the supply and demand schedules that go hand in hand with rising output and output capacity.

The dependence of the excessiveness of capital accumulation on the changeability of prices, costs and profits may also be demonstrated as follows: Output increasing at the rate of αs and realised at stable prices might well produce increasing and not stable profits and therefore investment opportunities in excess of those leading to a rate of growth of αs . Contrariwise, an increasing output sold at falling prices may still enable the existing profits to be maintained and prevent capital accumulation from becoming excessive. Whether it does so or not, depends on changes of various supply factors, one of which is the change in the rate of interest.

III

Domar's other unreal proposition is to take α and s as constant. While in regard to price flexibility we only re-stated what has been known, though apt to be ignored in recent years, in regard to the assumed constancy of α and s , we may have to put forward some new aspects. If they are not wholly new—as is probably nothing in economic theory—they may bring to light again features which have been neglected. Domar was led to the proposition of α and s being constant, apparently by the following reasoning: If employment is to be maintained, income must rise at a steady rate and that rate must be equal

to as . Consequently, as must be constant. Note that only the product as , and not each factor, would need to be constant. However, in order to save his argument, Domar assumed s to be constant. It had to follow that a would need to be constant too.

Such tests as have been made so far, indicate that s oscillates round a fairly stable average.⁶ It is certainly not constant in the short run. Nor is a constant, whether in the long or in the short run. The very fact that the marginal propensity to consume most probably differs from the average propensity to consume and consequently the marginal propensity to save differs from the average propensity to save, would produce changes in a . Moreover, as may be stated here, though explained later on, the marginal propensity to consume and, therefore, the marginal propensity to save are themselves not constant. There is no reason, on theoretical grounds, why the difference of the marginal rates from the average rates and the changes of the former should combine to make the average rates constant, and there is no evidence that they do, but all the evidence that in retrospect they have not.

Though there is no ground to assume that either a or s are constant, it is still thinkable that their product as might be constant. It is now time to point to a new, and in this writer's opinion, important aspect. The factors a and s are not independent magnitudes. More exactly, s and I , the investment underlying a and s , are interdependent. Nor is K independent of ΔI in the Keynesian formula $K\Delta I = \Delta Y$. The fact is that *investment (I) has both quantity and quality, the latter changing with the composition of I*. The productivity rate s , however, is a function of the quality, i.e., of the composition of investment. More pronouncedly, the marginal productivity rate is a function of the quality of the marginal investment. Likewise, the composition of the marginal investment (ΔI) will affect the marginal propensity to consume and, therefore, the multiplier K in the Keynesian formula. A change in s following a change in the composition of investment will of course change the rate of growth of output, or at least of potential output. If before this change of composition, output of capital goods tended to outpace the demand for them at the prevailing prices and other conditions and, because of the relative rigidity of prices and other conditions, tended to produce the dreaded dearth of investment opportunities, a change in the composition of investments may immediately slow down the rate of growth of potential output without reducing the volume (at prevailing prices) of investment and saving. It can produce this effect, even while the volume of investment (at prevailing prices) increases. One well-known instance of such a change in composition is the sub-

⁶ See this writer's article on "Capital Requirements in Progressive Economies" in *Economica*, N.S. Vol. XII, No. 47 (Aug., 1945), pp. 163-71.

stitution in the annual investment, of residential buildings for highly efficient machine tools. As much labour and capital resources may be spent on the former as on the latter, but the immediate annual output (value added after raw materials and wages, before depreciation) or potential output resulting from the installation of machine tools may be 100 per cent of the cost of investment, while that resulting from the erection of residential buildings may be 10 per cent. If it is objected that because of the different rates of depreciation, the productivity rates net of depreciation of the two types are nearly equal and the factor s is conceived as "net of depreciation," therefore, hardly changed, I would reply as follows:

It is correct that entrepreneurs when making their investment take account of anticipated profits, net of depreciation, otherwise they would not substitute long-life for short-life investments and that income is also distributed net of depreciation provision; however, it is also correct that the output that is offered for sale is increased by the gross output during the life of the equipment that produces it.⁷ Let us put it into figures.

If in one period the marginal productivity rate (s) (gross before depreciation) were 0.33 and s (net of depreciation provision) 0.3 and if α (net) were 0.1 of output, the rate of growth of output would be 3 per cent p.a. This assumes that as much replacement expenditure is made as is provided for as depreciation. If the whole of α (net) were invested in machine tools and because of their high gross reproduction rate, the marginal productivity rate (s) were raised to 1.0, while actual replacement expenditure of the total capital stock remained almost unchanged, annual output during the life of these machine tools would increase by close on 1.0 times 0.1, or by close on 10 per cent. If the whole of α (net) were invested in houses and because of their low gross reproduction rate, the marginal productivity rate (s) were reduced to 0.1 gross while replacement expenditure of the total capital stock remained almost unchanged, annual output during the life of these houses would increase by somewhat less than 0.1 times 0.1, or by close on 1 per cent. Another illustration might envisage a situation in which all output not consumed, but available for investment, which may be 20 per cent of output, would be expended on weapons and military stock-piling. This expenditure of resources has a gross productivity rate of zero, if we overlook as is usual the intangible value of future external security. As the replacement expenditure of all the other capital stock continues, say at the rate of 0.1 annual output, net s becomes -0.1 and αs becomes negative. This is as might be expected, if a country devotes—as it might be forced by circumstances—all its output (gross before depreciation) to consumption or other "non-productive" expenditure.

⁷ This discrepancy has already been observed by Keynes (*General Theory*, Chap. 8, IV).

In actual life we observe any combination of investment of varying shades of gross productivity from very high to zero and frequent changes of this combination.

The manner in which change in the quality, *i.e.*, in the composition of investment affects the multiplier K in the Keynesian formula can be illustrated as follows: Assume the total annual net investment (I) to consist of residential buildings only. In that case the goods and services made available for consumption and actual consumption of them would increase more than if net investment consisted of factories producing machine tools. This would be so irrespective of the previous consumption habits of the population. The increase in the consumption may be so great as to be nearly equal the increase of total annual net investment. In that case K (being $[\Delta C + \Delta I]/\Delta I$) would be very large but in the following period ΔI would be very small. Whether or not the interdependent changes of K and ΔI are of a magnitude, as not to affect the product $K\Delta I = \Delta Y$ need not be considered here. It is possible that it would affect that product and that consequently the ratio $K\Delta I/Y$, which is the rate of growth of income, would be affected too by the change in the composition of income.

It is apparent that a change in the composition of investment without any change in the value (at stable prices) of the aggregate, that is, in the (weighted) volume, of investment would produce divergencies from the prevailing degree of balance, as follows:

1. It would change the rate of growth of output that is available for sale, by changing the gross marginal productivity rate.
2. It would change the ratio which the annual income realised or assumed to be realisable (including annual corporate savings) bears to the annual output for sale, because the former is net of depreciation provision for the new investment, while the latter is gross of it. Such a change can be of considerable importance on short term fluctuations of employment.
3. It would change the impetus to increasing the income, inasmuch as it changes the multiplier and marginal net investment and possibly the product ($K\Delta I$) of these two factors.

In this writer's view the discussions of recent years stimulated by Keynesian and Marxian systems of thought have been too much occupied with the size of the investment and have overlooked the change in the composition of investment. Other schools of economic thought have, however, been well aware of the importance of a change in the composition of investment.

So far in this section it has been tacitly assumed that prices are stable and that productivity rates and investment rates are changed by the changes in the physical composition of investment and consequent technical factors. However, such changes also affect the marginal values of

the components of output, income, capital stock, consumption and saving all as expressed in money. This is another reason why the assumption of constant α and constant s is unreal. There are no grounds known yet why the effect on marginal values, and therefore on prices, cost and profits should lead to constancy of the money values of αs or of $K\Delta I/Y$.

In summary, the composition of investment as expressed in money is of the utmost importance from the point of view of its effects on the productivity rate (s) or on the multiplier (K) as well as from the point of view of its effect on relative price changes. There is interdependence not only between the subjects treated in this Section III, but also between these subjects and the subject treated in Section II. The problem of capital accumulation becoming excessive is inseparable from the problem of changeability of relative prices and of the changeability of α and s .

IV

It follows that Domar's remedy of "somehow" inducing people to continue investing—irrespective of the kind of investment—cannot assure a permanent equilibrium of output and demand. Of course, it may postpone for a while the unmasking of a disequilibrium. By so doing, it may even assist in making the disequilibrium more severe. As a matter of fact, compensating expenditure by government—although in recent years dressed up as a mere increase of spending—has always effected a change in the composition of expenditure and investment. Its value as a remedy, such as it is, is largely derived from the effect of it being a means of changing those compositions.

The question is apposite whether, and if so, to what degree unemployment is an appropriate means or even a justifiable accompaniment of effecting the necessary changes in prices, costs and the composition of output and income. Our generation has come to the conclusion that it is not the former and is doubtful whether it is the latter. We are still searching for more appropriate and justifiable ways. We should be honest and declare that we have not yet found justifiable means of effecting those changes that would not be accompanied by unemployment. The Keynesian thesis demanding a continuous increase of investment irrespective of its composition does not provide such means. Nor does *laissez faire* in a society in which the power of inertia is so strong as it is in all contemporary societies. Nor does the Russian system, in as much as we know its working, demanding as its price, *inter alia*, forced labour on a very substantial scale and many other compulsions. This writer has no solution to offer either at this juncture, the present article being only concerned with the analysis of the case. It may be, that by experiment with various forms of interventions we may stumble

into a solution. While those government interventions may aim at increasing expenditure or in the case of taxation and licensing of investment at reducing it, they may result in changing the composition of output and demand. The nations of the so-called Western World have only started to experiment. It is too early to evaluate the efficacy of the various doses of intervention. In the meantime, let us be clear in the recognition that capital accumulation becomes excessive and investment declines not because our society allows income to fall behind the required rate of α s, but because the power of inertia in our society makes the changeability of the factors of output and expenditure fall behind the required changes in their composition.

The search for means of changing relative prices and the composition of investment without incurring unemployment is in no way furthered by an assumption that unemployment is solely a function of an insufficient rate of growth in the size of income. This assumption is implicit in Domar's article.⁸

This certainly endows the rate of growth of income with undue importance. Unemployment arises if and when the supply and demand of employment do not balance. The growth of income is a determinant of the supply. The demand is a function of several other variables. Some of the latter are quite independent of the growth of income. For instance, the rate of growth in the number of employables—an important variable of demand—is mainly determined by past birth rates and recent death rates, and to a lesser extent by rates of migration, and bears very little relation to the present growth of income. Another variable is the rate of change in the quality of the employables (skill, training, general education) as different from their numbers. Even this variable may be independent of, or only partly dependent on, present income. Other determinants may be less independent of the growth of income, but their rates of change are most probably very different from the rate of growth of income. Among those other variables, there will be found the working time per year per employable offered, the response of labour within the working time to the output opportunities offered, that is the labour productivity rate, as it were, and last but not least the rate of growth of annual income per employable that is demanded along with the number of jobs. As far as I am aware, economists have hardly ventured into the territory of the rates of growth of income from employment per employable that is demanded together with a rising

⁸ In his previous papers, as quoted in the first page of this note, it was expressed as follows: "employment is a function of the ratio of national income to productive capacity" the latter explained as "total output when all productive factors are fully employed" ("Capital Expansion" etc., *op. cit.*, pages 139 and 137). Also *ibid.*, page 143, "The failure of the economy to grow at the required rate creates unused capacity and unemployment."

quantity of employment. That rate of growth of income demanded from employment is, however, another determinant of the required rate of growth of income. The rate α is not the only one.

Conclusions

The α conception, as formulated by Evsey Domar, was a progress in that it showed that expansion at the rate of $\Delta\alpha$ multiplied by a stable factor K , the Keynesian proposition, cannot assure equilibrium. It redirected attention to the dynamic elements in our economy. Its application to determine excessive capital accumulation and unemployment is however faulty. *In my view, studies in the effect of changes of the marginal capital productivity rate that are produced by changes in the composition of investment, and of course, in the mechanism which produces or permits the latter changes, are a preliminary to studies into the balance between output and demand (income).* Without more knowledge about those effects, the question of how to avoid capital accumulation becoming excessive cannot be answered. Nor can the question of how changes in capital accumulation affect employment be answered without more knowledge of the determinants of the demand for employment.

Rejoinder

If my understanding is correct, these are the main points of Mr. Stern's note: (1) That no definite statement was made in my paper as to whether or not real income can or will grow at a certain rate. (2) That the concepts of saving, investment and income were used improperly. (3) That no account was taken of relative price changes. (4) That both α and s were incorrectly assumed to be constant.

In addition, Mr. Stern made several other suggestions which do not directly bear on my paper and therefore do not require an answer.

1. Mr. Stern is correct in asserting that no definite statement regarding the ability of real income to grow at the so-called required rate was made in my paper. The reason for this omission was, however, explained—the unavailability (to my knowledge) of the necessary empirical information. If Mr. Stern possesses it, we should all regret that he did not choose to enlighten us. In the apparent absence of such data, those who retain their interest in the subject may still continue—and I hope not without profit—to analyse the problem. Such a procedure is hardly an "evasion." If I were pressed for an answer, I would say that, as far as I can now tell, our past (and probably future) difficulties were not caused by the *inability* of income to grow at some required rate. In other words, physical limitations (of which labor shortage would be the most important one) were not the cause of our down-

swings, and the trouble lay in our institutional setup, or more specifically, in the manner in which investment decisions in our economy are made. I agree that this statement does not go very far; any attempts to develop a deeper and better explanation are welcome.

2. It is to the credit of the last war that it put an end (or at least I hope it did) to the useless debate about the proper definition of income, saving and investment. That so much time and space could have been devoted to such a sterile subject, certainly does not enhance the prestige of our profession. If Mr. Stern is still worried, he might reflect on the rôle played by changes in inventories in equating saving with investment. It is perfectly true that by defining income α and s in a certain manner, Mr. Stern could make income always grow at the required rate, just as by an appropriate definition of a full employment equilibrium, the economy could be said to remain perpetually in this happy state. But the usefulness of these demonstrations, except as intellectual exercises, is not immediately clear.

3. I readily agree with Mr. Stern that relative price changes perform important functions in this, as in most other economic problems, but I refuse to jump with him to the conclusion that given flexible prices, the problem of capital accumulation, and by implication—of employment—ceases to exist. Mr. Stern is free to construct any number of theoretical models in which behavior patterns are such that flexible prices do assure a state of continuous full employment. This pastime has attracted economists for many years. The discussions of the last two decades have shown that the whole question is more complex than that, and that flexible prices are a remedy which may either cure or intensify the disease.⁹ Mr. Stern certainly confuses the issue when he argues that "It is never the case that all and every kind of capital becomes excessive, but only a particular kind of capital or groups of particular kinds" (Sec. II). In a changing society, some kinds of capital become excessive all the time, and not much can or need be done about it. But such partial maladjustments are not likely to cause depressions; by their very nature, these kinds of excessive accumulations of capital in some industries imply corresponding shortages in others. And Mr. Stern will be hard put to find capital shortages corresponding to the piles of unused capital in this country during the 'thirties.

4. And now, about the constancy of α and s . What Mr. Stern fails to realize is that this assumption has only a logical significance: it facilitates the mathematics involved. The real issue is not the constancy of α and s —and there is no reason why they should necessarily be con-

⁹ See in particular Oscar Lange, *Price Flexibility and Employment* (Bloomington, 1944), and Don Patinkin, "Price Flexibility and Full Employment," *Am. Econ. Rev.*, Vol. XXXVIII, No. 4 (Sept., 1948), pp. 543-64.

stant—but whether or not they so adjust themselves to economic changes as to bring about a reasonably continuous state of full employment. If, for instance, the propensity to consume falls whenever investment does, so that income is unimpaired, the whole problem of capital accumulation loses its significance as far as employment is concerned. But such an obliging behavior of α has not been witnessed in the past, and Mr. Stern has not convinced me that it will necessarily take place in the future.

As far as s is concerned, we are all aware that it differs among the various industries. There are industries with a low s , such as housing, railroads, hydroelectric installations, and evidently atomic energy plants, just as there are those with a high one, such as services. On the whole, high wages and low interest rates should encourage the former, but the question still remains whether these industries, requiring large capital outlay per unit of output and therefore frequently involving a high degree of risk, are best suited for private enterprise.

These, I believe, are the main issues which Mr. Stern's note has raised, and we may spare the reader's time by foregoing the argument about the minor ones. The problem under discussion—and probably any problem—transcends in importance what one or another individual said or meant to say. In this spirit, Mr. Stern's note should certainly be welcome.

EVSEY D. DOMAR

The Johns Hopkins University

THE FEDERAL RESERVE AND MONETARY POLICY FORMATION

By GEORGE L. BACH*

The problem of establishing more effective arrangements for the formation and execution of federal economic policy has been the subject of lively discussion since presentation of the Hoover Commission reports to Congress. In the monetary field this stimulus has been augmented recently by repeated demands for a new National Monetary Commission to study the entire problem of our monetary and banking arrangements. It is the purpose of this paper to summarize a recent study made for the Hoover Commission of the actual procedures followed in modern American monetary policy-making (primarily by the Federal Reserve and the Treasury), to point out certain weaknesses which seem to be evidenced, and to suggest some considerations that appear to be important in devising more effective procedures for formulating and executing sound monetary policy. Certainly no administrative arrangement can guarantee good monetary policy, but some arrangements may be more promising than others.¹

I. The Setting for Monetary Policy Formation

Congress's directive to the Hoover Commission was essentially to examine the executive branch of the federal government with a view to recommending ways to make it more efficient in carrying out its func-

* The author is professor of economics at Carnegie Institute of Technology. This paper represents primarily a brief summary of one part of a larger study of the Federal Reserve System done by him in 1948 for the Commission on Organization of the Executive Branch of the Government (the "Hoover Commission"). The recommendations suggested in the concluding section are for the most part those presented by the Commission's Task Force on Independent Regulatory Commissions. The Commission itself adopted the first recommendation listed below (for a "National Monetary Council"), but neither endorsed nor rejected the remaining Task Force recommendations, forwarding the Task Force and supporting staff reports to Congress without other comment on the monetary policy area.

The views expressed herein are personal, and are not necessarily those of the Commission or its Task Force. The recommendations of the Commission's Task Force on the Federal Reserve System are summarized in Appendix N of the Commission's reports. The detailed analysis of the Federal Reserve System's policy-making activities is contained in a staff report under that name.

¹ Roughly, monetary policy is taken here to cover those actions by the federal authorities concerned which importantly affect the supply of, or demand for, liquid assets (currency, deposits, and government securities) by the non-banking public.

tions. But the efficiency of any policy-forming agency can be analyzed only in the light of goals or ends which the policies are supposed to help achieve. Does the agency make good policy is the basic question if the major function is to make policy.

In the case of the Federal Reserve, which is ordinarily considered the agency primarily responsible for monetary policy-making; the question of what kind of policy it should make is far from simple. The Federal Reserve Act provides amazingly little information on what the System's monetary (credit policy) duties are, though it contains vast detail on the service functions of the Federal Reserve (currency issue, check clearance, etc.).² Both the language of the act and its legislative history indicate that credit control (monetary policy) was conceived of as involving primarily due attention to the gold standard, plus maintenance of "sound" individual banking practices. Though the Banking Acts of 1933 and 1935 clearly envisaged an important rôle for Federal Reserve monetary (credit) policy, even they provided no mandate as to what specific objectives monetary policy should seek to achieve, outside of the original preamble and sprinkled admonitions against undue use of "speculative" credit. Directives to help achieve full employment, prevent inflations, or mitigate business fluctuations are conspicuously lacking. The exception is the Employment Act of 1946, which is of somewhat indirect and uncertain applicability to the quasi-independent Federal Reserve, at least in the eyes of many observers.

In the absence of specific Congressional directives, it is necessary to posit standards against which present policy-making procedures can be judged. Limiting consideration to what is ordinarily termed credit, or monetary, policy, today the job of the Federal Reserve might reasonably be said to be: To regulate the cost and availability of money, both in the aggregate and in segments, so as to make a maximum contribution to high-level economic stability (roughly, full employment without inflation). This statement is in keeping with official Federal Reserve and orthodox economic pronouncements, although to mesh with the definition of monetary policy given above, "liquid assets" should be substituted for "money."

The current setting for monetary policy formation is so well known that detailed repetition would be pointless. In essence, traditional Federal Reserve control mechanisms (reserve requirements, open-market operations, rediscount rates) have become largely useless against inflation because a huge volume of government securities is outstanding in

² The preamble states the purpose of the Act as: "To provide for the establishment of Federal Reserve Banks, to furnish an elastic currency, to afford means of rediscounting commercial paper, to establish more effective supervision of banking in the United States, and for other purposes."

the hands of the commercial banks and the non-banking public, and because both Federal Reserve and Treasury authorities are committed (at least temporarily) to maintaining a low rate on long securities. Practically, this involves Federal Reserve support of the whole rate structure in governments when necessary, and in effect guarantees monetization of outstanding governments at the option of the banks and the public. But the support price itself is not the only issue. Even if interest rates were to rise, there would remain the war period heritage of a swollen liquid asset supply (currency, deposits, and government securities) in the hands of the public which would seriously hinder restrictive attempts by monetary and fiscal authorities.

In the broad sense, "monetary" and "debt" policy must be considered inseparable, if the importance of the public's *total* position on liquid assets (at least money plus government securities) is recognized, in contrast to the traditional concern with the supply of money alone. Not only may changes in the total volume of liquid assets influence investment and consumption spending directly, but indirectly as well through interest rates and credit rationing. Shifts in the holding of governments between banks and the public and changes in the structure of the debt outstanding may have similar effects. Debt management for years to come will almost inevitably play a major monetary policy rôle, regardless of the exact interest policy followed. Moreover, fiscal policy, like debt policy, inevitably has monetary effects, and effective fiscal policy increasingly appears to require appropriate changes in the supply and composition of liquid assets.

Given the fundamental decision to maintain long-term governments around par, the real issues on credit policy in the postwar period have thus centered around the prices at which the Federal Reserve stands ready to buy government securities offered directly or in the open market, and around the interest rates at which the Treasury refunds the maturing issues in the public debt. In fact, the two decisions have been inseparable. The Federal Reserve has changed its open-market policy (its pattern of buying prices for governments) only after full consultation with the Treasury; and changes in Federal Reserve buying prices on governments have been closely coordinated with changes in the interest rates offered by the Treasury on refunding issues. The determination of open-market policy has thus been essentially a determination, in effect jointly with the Treasury, as to the structure of interest yields on government securities. Given the decision to maintain low interest rates, Federal Reserve policy on reserve requirements and rediscount rates is of second-order importance for over-all monetary purposes, though it may importantly affect bank earnings and particular groups of borrowers and asset-holders. War finance has set a con-

fining stage for current monetary-fiscal policy-making, whatever administrative arrangements prevail, unless we are prepared to make rather drastic shifts in our debt structure or credit policy commitments.

II. *The Process of Monetary Policy Formation*

The legal structure of Federal Reserve policy-making machinery, encompassing primarily the Board of Governors and the Open Market Committee with basic responsibility in the former for major credit policies except for open-market operations, is well known to economists. As indicated above, continuation of anything like present debt and monetary arrangements promises to center emphasis on joint Federal Reserve-Treasury determination of the government security rate structure. In terms of Federal Reserve policy, open-market operations are the major focus.

Actual Federal Reserve policy-making reflects the facts of monetary interdependence. In practice, the separations between open-market and other credit policy-making is less sharp than would appear from the statute. The Board members constitute a majority of the Open Market Committee. Possibilities of changing reserve requirements are inevitably considered in Open Market Committee discussions, as an alternative or supplement to open-market operations. With seven identical members of both groups and close informal relations between the Board members and Bank presidents, the decisions in the two areas are on the whole closely integrated. The Reserve Bank presidents generally have a full opportunity to present their views on reserve policy; since voting control on all policy issues ultimately resides in the Board and since leadership of the Board chairman for over a decade has been strong on all major policy issues, the relative rôles of the Board and the Banks have not been greatly different for open-market, discount, and reserve requirement policy. In all, Reserve Bank influence is relatively informal, exercised through discussion and correspondence with the Board members more than through formal voting strength.

The Open Market Committee meets quarterly. On the day preceding each meeting, the twelve Reserve Bank presidents customarily meet in Washington to discuss common Reserve Bank problems and to consider developments in the credit policy area. While little concrete evidence is available, it appears that there has sometimes been a tendency for the presidents to consider themselves as something of a "bloc" during periods of controversy with the Board over open-market and reserve policy, though this has not been uniformly true and there is often disagreement among the Reserve Bank presidents. The presidents, often led by the president of the New York Bank, have often been

more inclined to favor cautious, mild policies that would be less disturbing to the normal courses of banking and the money markets than have the Board members.³

Open Market Committee meetings are informal. Discussion typically ranges freely over the entire field of credit policy. Those Reserve Bank presidents who are not at the time members of the Committee also almost invariably attend and participate as freely in the discussions as do the Committee members. This means, in effect, that meetings of the Committee consist of a minimum of 25 to 30 persons (seven Board members, twelve presidents, and ten or so staff members from the Board and Banks), the majority of whom feel free to participate actively in discussion. A group of this size, even though only twelve are voting members, has not been found a highly effective deliberative or executive body. It functions in considerable part as a medium for general discussion and examination of issues.⁴

Under the circumstances, much of the rôle of open-market policy-making is in effect delegated to an Executive Committee, operating under general directives from the full Committee. The Executive Committee consists of three Board members and two Reserve Bank presi-

³ This was apparently true, for example, at various points during the war when the possibility of raising reserve requirements was considered; following the war when Board proposals to tighten up sharply on interest rates were under discussion; and when the Board recently proposed that additional special statutory reserve requirements (fulfillable by holding government securities) be imposed on member banks to check loan expansion. On highly technical questions such as these, where no definitive criteria for action are available, it is only natural that the Reserve Bank presidents, whose daily work throws them in intimate contact with the commercial banks of their districts, should sense and appreciate fully the problems faced by the bankers. The Board members, on the other hand, are further removed from the private banking community and are apt to evaluate higher the possible "public" advantage (for instance, checking inflation) even at the cost of reducing private bank earnings or disrupting normal money market procedures.

An example is the contrast between the Board of Governors' views on postwar anti-inflation policy as presented by chairman Eccles, and those presented by president Sproul of the New York Reserve Bank, before the joint Congressional Committee on the Economic Report in 1947-48. The Board sought added reserve requirement powers to take active steps against inflation through checking bank credit expansion, while Mr. Sproul doubted the need for further action in the credit field and specifically opposed the vigorous, "clumsy" method of raising bank reserve requirements if any action were to be taken, favoring instead a more tentative, less "disruptive" approach. Chairman Eccles' testimony was given on November 27, 1947 (reprinted in the *Federal Reserve Bulletin*, December, 1947, pp. 1455-63) and on April 13, 1948; President Sproul's testimony was on May 12, 1948.

⁴ When the vote is taken on a policy directive to the Executive Committee, it is usually unanimous. The last divided vote on a formal directive to the Executive Committee occurred in 1943. Unanimous votes were common during the earlier history of the Committee, though less uniformly so. This ordinarily represents a compromise to which unanimous agreement can be obtained, though in some cases there are no substantial disagreements to be compromised and the leadership of the chairman in establishing his views has been very strong. It is apparently felt that a unanimous vote is desirable, possibly to present a united front against possible policy criticism from outside the system.

dents, with the Board chairman as chairman and the president of the New York Bank as vice chairman. Day-to-day market operations are carried on by the manager of the System Open Market Account, acting in close consultation with the two leaders of the Executive Committee and with the Treasury. The account manager, who is also a vice president of the New York Reserve Bank, plays a rôle involving substantial discretion and money market prestige in carrying on the account's day-to-day dealings. Under the recently adopted policy dropping a fixed pattern of rates, the account manager must in essence "make" day-to-day System open-market policy within an appreciable range of operating discretion.

During and since the war, the most crucial part of Committee policy formation has occurred through the discussions between its representatives and the top officials of the Treasury. All major decisions as to the government security market rate structure are considered in these conferences. Such policy discussions, covering the entire range of financing and credit policy, have been long and time-consuming. Their size and formality vary. Recently, the Board chairman and New York Reserve Bank president (chairman and vice chairman of the Open Market Committee) have frequently met informally with the Secretary and Undersecretary of the Treasury. Often a few senior staff members from both agencies are included, since relatively technical details are of major importance in many financing decisions. Sometimes joint Federal Reserve-Treasury staff working parties develop agreed staff recommendations, but this is rare. More commonly, each agency has developed its own program, based on separate consultations with the banking community, which it proposes for discussion, and the Board chairman and the New York Bank president have also not infrequently taken divergent positions, especially on minor financing matters.⁵

Out of these negotiations finally comes an agreed program, or at least an operational basis for non-conflicting policies. On Treasury financing the final decisions are made by the Secretary of the Treasury, who may give more or less weight to Federal Reserve counsel. On credit policy the final decisions are made by the Reserve authorities, but over the past decade they have almost never diverged sharply from

⁵ Between policy meetings, the Board's staff is in frequent touch with its Treasury counterpart and with the New York Reserve Bank on day-to-day market developments. Equally close operating relations prevail between the Treasury Under-Secretary or Assistant Secretary in charge of fiscal operations and the manager of the system open market account at the New York Bank. The account manager is also viewed by the Treasury as its main point of contact with the money market, since the New York Bank acts as chief fiscal agent for the Treasury as well as for the Open Market Committee; and the Treasury guards carefully from Board interference its direct relations with the New York Bank on fiscal agency money market affairs.

the Treasury position on major policy. They feel freer to do so on non-open market policy decisions that do not directly affect the prices of government securities. In such informal negotiations, the personalities of the various top officials involved have influenced substantially the nature of the negotiations and the relative strength exerted by the two agencies.

The importance of these joint Federal Reserve-Treasury discussions and decisions inevitably concentrates a high degree of Federal Reserve leadership in the major conferees, the chairman of the Board and the New York Bank president. This leadership over the past decade has been greatly strengthened by the fact that both governor Marriner Eccles at the Board and presidents George Harrison and Allan Sproul in New York have been, it is generally recognized, "strong" men who have exercised System leadership on other policies as well. Governor Eccles in particular, during his chairmanship from 1934 to 1948, made the rôle of the chairman one of strong leadership for the System.⁶

Quite aside from personality factors, however, as the chief Federal Reserve representative in dealings with the Treasury, the chairman inevitably not only serves as primary Federal Reserve official in discussions so highly complex and fluid that simple, completely prearranged positions were seldom feasible. He also serves as the primary conduit to carry back to the Reserve authorities the complex attitudes of Treasury officials on the intricate problems of debt financing and interest rate policy. In the Treasury, responsibility on important issues is necessarily narrowed down to one man, the Secretary, or at least to two, the Secretary and Undersecretary. As a practical matter, in intricate decisions involving many mutually interrelated variables a Federal Reserve Open Market Committee of twelve members, or even a Board of seven, cannot actively and equally share in discussions and "bargaining" with a single-headed Treasury. The nature of modern central banking makes almost inevitable highly centered System leadership *if* the

⁶There is no case on record in the Board's formal reports during the entire fourteen years when a policy decision was taken against Governor Eccles' vote, and in the large majority of cases votes were unanimous. His leadership in the Open Market Committee appears to have been slightly less complete, but here again there is only one policy issue on record in his twelve years as chairman on which his vote was overridden (three identical votes on the handling of short-term issues in the system account in early 1939). His leadership in both the Board and the Open Market Committee was thus exercised predominantly through informal discussion with other members rather than through obtaining formal voting majorities on issues that came to final vote in a controversial state. This situation was apparently supported by the desire to take unanimous action on policy issues whenever this was feasible, and there was undoubtedly a substantial amount of internal cross-influence before many votes were taken, in which the president of the New York Bank in particular often exerted marked influence.

As this is written, chairman Thomas McCabe has served so briefly as chairman of the Board that there is no basis for generalization beyond chairman Eccles' regime.

System is in fact to have any real influence over the supply of liquid assets and the interest rate structure.

III. *Evaluation of Present Policy-Making Procedures*

Though the legal independence of the Board from the Treasury has been complete since 1935, when the Secretary of the Treasury and Comptroller of the Currency were removed from Board membership, if anything, credit policy since 1935 has been more rather than less consonant with Treasury financing needs. In fact, the Federal Reserve has been far from "independent." The pattern and volume of Treasury financing have provided the framework for credit policy-making. It is significant that Federal Reserve influence in the direction of stronger anti-inflationary measures during the early postwar period, while apparently of appreciable importance, was exercised primarily through influencing Treasury decisions on financing, and through repeated insistence to Congress and the public on the need for more positive action to stem the inflation—*not* through direct Federal Reserve actions. Fringe measures were taken—a small increase in short-term rates, consumer credit and stock market controls, and direct suasion to discourage inflationary lending—but the Reserve authorities' repeated requests for new type reserve powers reflected their basic unwillingness under the circumstances to use their one powerful weapon—withdrawal of market support for long-term government securities.⁷

The reasons for Federal Reserve adherence to Treasury leadership in spite of the complete statutory independence of the Board are no less real and understandable because they are largely intangible. At bottom they reduce to the facts that (a) the Board is, and feels itself to be, a part of the government, (b) within the government Treasury and Federal Reserve policy are so inextricable that sharp operating conflict between them would yield a government financially divided and vulnerable to crisis and instability, and (c) in the negotiation of conflicts of view into a more or less accepted operational program, the Treasury is almost invariably the stronger of the two, basically be-

⁷ The Federal Reserve appears to have drifted into the low interest policy early in the war before tightening reserves, full employment, and inflationary pressures became a major problem. The gradualness of these developments provided no vivid issue on which the decision was sharply faced. By 1942-43, the Federal Reserve authorities were advocating stronger anti-inflation measures in Treasury-Federal Reserve councils, but by this time the pattern of war finance was firmly established and the Reserve officials were unwilling to take action counter to Treasury insistence on the easy-money pattern. In the postwar period, official Federal Reserve pronouncements have suggested a schizophrenic urge to rationalize low interest rates in inflation while insisting that all the logical concomitants of low interest rates must be avoided if disaster is to be prevented. Cf. L. V. Chandler, "Federal Reserve Policy and Federal Debt," *Am. Econ. Rev.*, Vol. XXXIX, No. 2 (March, 1949), pp. 405-29, for a more complete account.

cause of its closer ties with the President and his executive officials but also because of its own potential powers over bank reserves.⁸

Treasury rather than Federal Reserve leadership in the resolution of conflicting views apparently arises, anomalously, in substantial part from the very "independence" with which the Board is vested. The Treasury is a crucial operating branch of the government. It is charged directly with the responsibility for borrowing any funds needed by the government. It recommends the tax policy. In his fiscal and debt policy rôles, the Secretary of the Treasury is inevitably in close contact with the White House. At least during the past fifteen years, the Secretary of the Treasury has been one of the President's closest personal confidants and advisers. This relationship is probably not accidental; by the nature of his function the Secretary of the Treasury will always be more closely associated with the President than most of the other cabinet members.

Federal Reserve stress on its "independence" from the ordinary executive branch of the government has placed it in strong contrast to the close operating responsibility of the Treasury in executive affairs. While the Board is appointed by the President and the chairman apparently serves at his will,⁹ Board relations with the President have, in accordance with the intent of the law and with practical operating responsibilities, always been much less close than those of the Treasury. The Secretary of the Treasury typically saw the President on virtually a day-to-day basis during the war. The Board chairman's visits were more on the order of one or two a year. Thus in the ultimate formation of major government financial policy, the Treasury has generally

⁸ Traditionally, "independent" central banks have protested strongly against Treasury borrowing from the commercial banks and the central bank itself to finance war costs, but in practice they have almost never refused accommodations. The transition from private to at least semi-public status for central banks abroad has lessened the sharpness of this conflict, and with nationalization in many countries any conflict of views is entirely within the executive branch of the government. See the account of M. A. Kriz, "Central Banking and the State Today," *Am. Econ. Rev.*, Vol. XXXVIII, No. 4 (Sept., 1948), pp. 565-80.

In the peaceful, prosperous 1920's, however, according to C. O. Hardy, there was little evidence of Federal Reserve subservience to Treasury fiscal needs (*Credit Policies of the Federal Reserve System*, Brookings Institution, 1932, Chap. XIV). In view of the very limited Treasury fiscal needs of the times and the guiding role widely accorded the gold standard, the significance of that decade's experience for the future may be somewhat limited.

⁹ The exact legal status of the President's power to remove the chairman (as chairman though not as a Board member) is not clear. In *Humphrey's Executor v. United States* (295 U.S. 602 [1935]), the Supreme Court held that Congress could restrain the President from removal of Federal Trade Commissioners except for causes specified in the statute. The Federal Reserve Act merely states that the chairman and vice chairman are to be designated by the President for four-year terms, and contains no specific restrictions on the President's power of removal during these terms.

been in the "inner council" while the Federal Reserve has been a much less active participant.

Federal Reserve-Treasury policy conflicts have seldom been taken to the President for resolution. This again has apparently reflected in part the Federal Reserve's unwillingness to consider itself similar to the regular departments in executive responsibility to the President, and in part recognition that the Federal Reserve was seldom likely to prevail under prevailing circumstances. During part of the war, however, the process of over-all government economic policy-making was transferred in considerable part to the Office of Economic Stabilization in the Executive Office of the President. Meetings of the Economic Stabilization Board¹⁰ considered the relative rôles of fiscal policy, credit policy, direct controls, and other measures in the war period economic scene. Fairly few Federal Reserve-Treasury conflicts on credit policy appear to have been taken to the Board, but, in general, the voice of the Federal Reserve on general economic policy appears to have been greater during than before or since that period.

Aside from the question of ultimate presidential support, the Reserve authorities are always aware of the Treasury's own potential powers over bank reserves and the need for agreement if negation of each other's policies is to be avoided. Treasury powers to reduce member bank reserves are very great, simply through permitting Treasury balances at the Reserve Banks to pile up, through the handling of its trust funds, and through Stabilization Fund operations. While the Treasury's powers to augment bank reserves are more limited,¹¹ they are ordinarily large in view of the large cash balances now typically maintained by the Treasury. Treasury utilization of these powers specifically to influence bank reserves would generally interfere with the normal course of its fiscal or exchange operations, and credit policy implications of Treasury fiscal management operations have ordinarily been a secondary consideration. Nevertheless, the potential Treasury use of such powers is an additional consideration impelling Federal Reserve authorities to cooperate with the Treasury to reach working agreements on credit and fiscal policy.

Lastly, if the Federal Reserve should adopt policies in active conflict with those of the Treasury and the administration, the possibility always exists that Congress may alter or abolish the present system.

¹⁰ Composed of the director of Economic Stabilization; Secretaries of the Treasury, Commerce, and Labor; chairman of the Board of Governors of the Federal Reserve System; Director of Budget; Price Administrator; chairman of the National War Labor Board; and two representatives each of labor, management and agriculture appointed by the President.

¹¹ Since the Treasury can only decrease its Reserve Bank balances to the extent that it has balances on hand.

Except possibly in periods of divided Congressional-executive party responsibility, Federal Reserve insistence on exercising its legal prerogative of independence might mean insistence upon extinction. Certainly this might be the case in times of crisis, such as war. A recent off-the-record comment of the governor of one of the world's major central banks describes a situation apparently common among central banks for many years. The governor was asked, "Do you feel your bank has the right to defy the government?" "Oh, yes," he replied, "We value that right very highly—and wouldn't think of exercising it." The power of the Federal Reserve Board is enormous and its legal right to exercise the power is unchallenged. Yet as an operating matter, Federal Reserve policy has reflected keen awareness of the executive leadership of the President and the key rôle played by the Treasury in government financial affairs.

IV. The Problem of Obtaining More Effective Policy Formation

A. The Place of Monetary Policy Formation

Any practically useful consideration of monetary policy formation must rest within the framework of the government's over-all policy-making. Often "economic" policy-making is indistinguishable from "political" or "military" or "international" policy-making. Seldom are important monetary policy decisions completely independent of other governmental policy issues. The interrelationships of monetary, debt, and fiscal policy are obvious. Realistically, however, decisions within this whole area are often conditioned, or even determined, by essentially "non-economic" considerations, and there is little point in pretending that formal administrative arrangements will alter this basic political reality. For example, in 1946-47 the need for monetary-fiscal policies to restrain inflation was clear. But housing was scarce and veterans' welfare stood high in the public mind. Easy credit for home construction was monetary dynamite, especially when the basic construction limitations were shortages of labor and materials. Yet government-guaranteed housing loans at low interest rates were supported by the housing and veterans agencies and were proffered to veterans with enthusiasm. The farm price support program was a similar case in point. Most important of all, quantitatively, since the war has been the huge defense and international aid program. At this extreme, it is clear that "monetary" policy considerations are properly overridden by the need for appropriate defense and war-preventive steps. But this situation is removed only in degree from many others in day-to-day government policy-making.

Effective coordination of monetary, debt, and fiscal policy is thus only one phase of the larger problem of effective government policy

formation. Monetary-fiscal policy becomes, in important areas, merely a side result of decisions on predominantly non-monetary issues. Viewed in this light, it is more difficult than is commonly assumed to be sure whether "economic" and "monetary" considerations have been given appropriate attention in the formation of government policy. But the evidence of the past decade, at least, suggests that integration of monetary policy into government economic policy has been substantially less than satisfactory. As between the Federal Reserve and the Treasury (monetary and fiscal policy), there has been reasonably close coordination, but mainly through subservience of Federal Reserve to Treasury views. Between monetary-fiscal policy and government lending policy, there has been conflict as often as coordination during the past decade. Between the monetary-fiscal-lending area and other governmental economic policy, coordination appears to have been haphazard, with most issues decided on an *ad hoc* basis without adequate government-wide consideration of inter-agency implications of policies adopted.

As a matter of practical government, a mechanism is needed to accomplish three purposes, whether attention is focused merely on the monetary-fiscal-lending area or on the entire sweep of the government's economic policy making:

1. To assure full information on, and consideration of, the important inter-agency implications of proposed individual agency policies prior to adoption (*e.g.*, the monetary and fiscal implications of housing lending programs);
2. To facilitate compromise between the agencies concerned of as many inter-agency differences as is practicable, resulting in informally agreed-on "operational" understandings or programs; and
3. To focus up for submission to the President, and perhaps ultimately to Congress, those major inter-agency policy conflicts on which no working agreement can be reached.

In principle, the President has adequate power to establish in his Executive Office such officials and procedures as are needed to coordinate government policies on economic stabilization issues. Or he may choose to do the job himself. But, in practice, neither approach is apt to work very effectively. The President is simply too busy to be concerned with adjudication of all the inter-agency policy differences that need attention, and experience with an *ad hoc* assistant informally delegated to achieve coordination suggests that this is not an adequate answer.

There is no easy solution to this problem. Establishment of an "Economic Assistant to the President," or some comparable position equal or superior to cabinet rank, to assume the continuing responsibility

for seeing that maximum progress is made on the three scores indicated may be a partial answer.¹² Attachment of the present Council of Economic Advisers to such an official might provide a more effective tie between the Council and top operating policy formation than has so far been achieved, while maintaining a substantial degree of long-run Council planning activities relatively free from current policy-problem pressures.

In the field of monetary-fiscal-debt policy, effective, continuous consultation between the government's top monetary-fiscal and lending officials *on a roughly co-equal basis* is essential if the three practical steps toward balanced, coordinated policy-making indicated above are to be achieved. For practical purposes, assuming continuation of existing agencies, these top officials are the Secretary of the Treasury, the director of the Bureau of the Budget, the chairman of the Board of Governors of the Federal Reserve System, and one (or at most two) representative of the lending agencies.¹³ These four officials, with the chairman of the Council of Economic Advisers, should be the President's chief advisers in the field of monetary-fiscal-lending policy. As close members of his official family they need to be continuously aware of each other's plans, to settle most policy issues in the area among themselves, and to focus up major differences for consideration by the President. In short, together they need to form and put into execution the government's monetary-fiscal-lending policy, subject to the President's supervision and the ultimate conditions established by Congress.

Formation of a formal, but very flexible, National Monetary Council would appear to combine the best experience of the war and postwar periods in achieving these goals. Such a council might be composed basically of the four officials just indicated, with flexibility to add others in dealing with particular issues at either the request of the President or the wish of the council members. Such a council probably should, like the National Advisory Council, be established by statute which would direct the several agencies to consult through this mechanism, toward establishment of coordinated government policy to promote high-level employment and economic stability.¹⁴

¹² The repeated use of such officials on a more or less *ad hoc* basis during crisis periods is evidence in support of such an approach. Recent experiences range from establishment of the powerful Directors of Economic Stabilization and of War Mobilization and Reconversion during the war, to the more informal use by President Truman of Mr. Steelman as continuing economic assistant and his recent use of Secretary Brannon to coordinate the government's anti-inflation program before Congress. Experience suggests, however, that the more *ad hoc* is the basis of such arrangements, the less satisfactory they are.

¹³ Substantial consolidation of the government's now sprawling lending activities into at most three or four centralized lenders would markedly simplify this problem.

¹⁴ Such Congressional action might take the form of amendment to provide more

It is crucial that any such council, however, should be specifically responsible to the President and should possess extensive flexibility as to its *modus operandi*. Ultimately, the chief executive must be responsible for the establishment and execution of the government's monetary-fiscal-lending policies, within the framework established by Congress. The usefulness of such a council would be to focus up and facilitate effective execution of this responsibility, not to prescribe and limit the President's handling of his duties nor to vote formal directives to the agencies involved. Excessive statutory rigidity would lead to either unnecessary inefficiencies or increased by-passing of the established formal machinery as new-type policy problems arose. Statutory status, on the other hand, would help assure continuity between administrations and would provide each incoming President with at least a framework around which economic policy-making procedures could be organized in the difficult early period of the administration. But in the last analysis, the coordinating and policy-forming rôle of any such council depends basically on its standing in the eyes of the President and Congress as the executive group responsible for the stated functions. It will "work" if it becomes an informal, integrated part of the President's official family. If it does not achieve this status, no amount of formal specifications can make it an effective coordinating mechanism at the top-executive policy level in an area of such vital importance to the President, Congress, and the nation.¹⁵

Establishment of such a council could not guarantee coordinated action by the monetary-fiscal-lending agencies, much less by the multitude of government agencies whose activities directly or indirectly affect the level of economic activity. There is no neat, simple road to coordination of the many government policies having conflicting economic implications, especially when the major issues involved are often in other fields. The most any formal or informal arrangements can do is to provide a maximum opportunity for well-considered, coordinated policy-making. If they guarantee that the inter-agency economic implications of important policies are fully considered prior to adoption, that the maximum pressure for coordination consistent with effective agency operations is applied, and that issues not subject to amicable compromise are effectively referred to the President, little more can be expected.

effective implementation for the Employment Act of 1946, which has already established some mechanism in the economic stabilization policy field, both in the Council of Economic Advisers to the President and the Congressional Joint Committee on the Economic Report.

¹⁵ A National Monetary Council might advantageously be combined with the existing National Advisory Council, which deals with international financial matters. Two members would surely be common to both councils.

B. Role of Central Bank in Monetary Policy Formation

The nation cannot brook a divided, obstructionist monetary-fiscal policy in crisis periods. The old concepts of central bank independence, based on a narrow view of central bank responsibilities, have been swept away by the realities of modern large-scale government financial operations in war and peace, and by recognition of government fiscal policy as a powerful countercyclical stabilization instrument. Only in periods of stability and normalcy is it realistic to conceive of congressional and administration acquiescence in central bank policies against the government's economic policies.

At bottom, it is the government's control over the money (liquid asset) supply that is at stake. Viewed in this fundamental light, the Federal Reserve's continuous responsibility to "the government," both the Congress and the President, becomes clear-cut and obvious. The real problem is how to obtain the most reasoned, deliberative judgment as to the proper exercise of the government's power over the liquid asset supply so as best to promote economic stability and government financial strength in time of crisis.

A strong case can be made for combining responsibility for the government's monetary, debt, and fiscal affairs in the Treasury. The Treasury has traditionally been associated with control of the government's power of money issue and retirement; it is now charged with executive fiscal responsibility. Complete centralized Treasury responsibility for both would guarantee a unified government monetary-fiscal policy in dealing with cyclical economic instability, war finance, and other problems. It should produce expeditious formation of policy and flexibility in dealing with crises. It should unmistakably focus responsibility through the Secretary of the Treasury to the President, who must ultimately be responsible for formation and execution of such executive-type functions as monetary and fiscal policies. Buck-passing would be far more difficult.

The case against consolidation of the fiscal and money-creating powers in the Treasury is that it may lead to too easy reliance on money creation, to too easy inflation, to too little emphasis on sound fiscal policies when they require heavy taxation and restricted government expenditures. The Treasury viewpoint, as history demonstrates vividly, will almost invariably tend toward "easy money," almost never toward *effective* monetary restriction when it comes to the action showdown. This tendency is greatly strengthened for the foreseeable future in this country by the huge outstanding national debt, whose maintenance at low interest rates and stable market prices will understandably impel Treasury preferences for easy money conditions for

many years ahead, in inflation as well as in depression.¹⁶

While this inclination toward monetary ease is unobjectionable in depressed periods, it precludes strong restrictive credit policies in periods of inflation, in war or peace. The dangers of excessively easy Treasury access to additional funds have been recognized for hundreds of years. They underlie the world-wide attempt during the past two centuries to check too easy government inflationary spending through establishment of "independent" central banks. But this experience has shown the unreality of the assumption that control over the money supply can or should be "outside" the government. It emphasizes that if a separate central bank is to play an effective rôle in the formation of sound monetary-fiscal policy, it must act *through* the government—through influence on the government's ultimate economic policies, not through obstruction and objection from outside.

The case for a separate central banking agency is simply that it can contribute a viewpoint in government monetary-fiscal policy formation that is specifically oriented toward the maintenance of over-all economic and financial stability. A strong argument can be made that only a separate agency, free from the Treasury's operating fiscal responsibilities, can be counted on to advance strongly the case for monetary restraint when restraint is needed. A central banking bureau of the Treasury could little hope to prevail in Treasury councils against the operational needs of large-scale fiscal policies.

What is needed is an equal hearing for the Treasury and central banking points of view in the determination of government policy, and then unified action on what policy "the government" judges best. A separate central bank can play an effective rôle only if its status is roughly equal to that of the Treasury in government monetary-fiscal councils. Its job should be to argue the case for monetary restraint when restraint is needed, regardless of the narrower debt management considerations that may dominate the Treasury thinking; to argue for monetary expansion where that is required is to mitigate instability.

¹⁶ It should be clear that the case for a separate central bank thus rests largely on the conclusion that the Treasury will on the whole have an inflationary bias because of its operating responsibilities, and will *not* take the broader view of monetary-fiscal-debt policy that may be imputed to a central bank, freer of operating responsibilities and less susceptible to the pressures of organized groups in the economy. While this conclusion seems to me justified by the historical evidence and by the pressures foreseeably at work in the future, others may of course evaluate the evidence differently.

A strong Congressional directive to the Treasury to place commodity price and/or income stability above government security price stability in carrying out its fiscal responsibilities would lessen the need for a separate monetary agency. But even such a directive could not eliminate the fact that the Treasury's operating responsibility for raising money when needed, coupled with the inevitable human tendency to "play safe," would probably lead the Treasury always to assure overly generous financing facilities to itself through its central banking powers.

If Federal Reserve-Treasury compromise between equals proves impossible, the issue should be referred for informal adjudication to the proposed National Monetary Council or ultimately to the President himself. But once a government policy is determined, active obstructionist action by the central bank would be disruptive and untenable. Only the right to raise crucial issues directly with Congress should remain, and it is well to recognize clearly that this could be exercised *only on very rare occasions* if any effective Federal Reserve rôle in government executive policy councils were to be maintained.

The meaningful choice thus lies between (a) consolidation of monetary-fiscal functions in the Treasury and (b) establishment of a more important, responsible rôle for a separate Federal Reserve. The present arrangement provides the advantages of neither alternative and the disadvantages of both. On balance, the duality and inefficiencies of separate Treasury and Federal Reserve organizations appear to me to be justified by the advantages of maintaining in the government an independent credit policy viewpoint.¹⁷ But the greater Federal Reserve "independence" *from the Treasury* should be established and protected if a separate central bank is to be maintained, and steps should be taken to implement the rôle envisaged for the central bank in government policy formation.

This reasoning suggests that the potential contribution of a separate central bank could be best obtained by:

1. Utilization of some sort of National Monetary Council upon which the Treasury and the Federal Reserve would sit *with equal voice*; and
2. Increased responsibility of the Federal Reserve to the President as one active major participant in the formation of executive branch economic policy. Further means for achieving this result are considered below.

Marked improvement might be obtained additionally or alternatively by making the Federal Reserve specifically responsible for all debt management. Thus the Treasury might borrow only, or largely, (at least during time of peace) from the Federal Reserve, and the Federal Reserve would have the power to issue and deal in its own securities vis-à-vis the banks and the public. Coupled with adoption of a security reserve plan to restore Federal Reserve control over commercial bank deposits, this plan might both restore the effectiveness of monetary controls and concentrate responsibility for monetary-debt policy in one agency so as to minimize simultaneously the opportunities for

¹⁷ Though *effective* use of the President's Council of Economic Advisers to represent a non-operating monetary-fiscal viewpoint in governmental policy councils would substantially weaken the case for a separate Federal Reserve.

buck-passing, the chances of divided policy, and Federal Reserve-Treasury friction. Full exploration of this rather drastic reallocation of powers and responsibilities is beyond the scope of this paper; it may merit fuller investigation.¹⁸

C. Internal Federal Reserve Organization for Policy-Making

Experience suggests four important changes in the internal structure of the Federal Reserve to promote more effective participation in government policy formation.

1. Responsibility for all Federal Reserve policy formation should be concentrated in the Board of Governors. The present split responsibility between the Board and Open Market Committee attempts to divide what is indivisible in any meaningful view of monetary policy-making; it breeds friction; and it specifies a policy-making body unrealistically large for the type of work it must do to be effective. Concentration of all policy responsibility in the Board, coupled with a statutory requirement for periodic full consultation on system policy with the twelve Reserve Bank presidents, would vest responsibility for the nation's money supply in a specifically public body, appointed by the President with the approval of the Senate, while protecting adequately the broad regional interests which the regional system was aimed to safeguard. Monetary policy must be national and public in character; it has no room for regionalism or for special interests.

2. The Board should be decreased in size to three members, with six-year terms expiring at two-year intervals. This would decrease the likelihood of a continuing major policy difference between the Board and the president, yet retain the maximum quasi-judicial independence compatible with effective participation in government policy-making. A smaller Board would be in keeping with the realities of Federal Reserve relations vis-à-vis the Treasury, and it should provide a more efficient mechanism for internal policy-making. It would increase the attractiveness of Board appointments to outstanding men, who will seldom long be satisfied with membership on such a Board unless active participation in policy-making is involved. Yet in combination with a requirement of full consultation with the twelve Reserve Bank presidents on policy issues, it would protect adequately the deliberative

¹⁸ A similar arrangement is suggested by Professor A. G. Hart, in "Monetary Policy for Income Stabilization" a forthcoming volume of the Yale University Committee on National Policy. Professor Jacob Viner urged as long ago as 1936 ("Recent Legislation and the Banking Situation," *American Economic Review, Proceedings*, March 1936, p. 118) that the Federal Reserve should be permitted to deal with the market in its own securities, though he did not propose the further step of Treasury borrowing solely or primarily from the Reserve. Viner's suggestion was merely to give the Reserve a power already possessed by many other central banks.

quality of Federal Reserve policy-making. If the need for a Board is not dominant, a good case can be made for a single executive head for the Federal Reserve, subject to the consultation requirements noted. Certainly, as a practical matter the board form is less effective in policy deliberations than might be superficially expected, and the policy contributions of many Board members have apparently been negligible during Federal Reserve history to date.

3. The Board chairman should specifically serve as chairman at the will of the President. Formal isolation of the chief Federal Reserve official from the President's official family is unrealistic and outdated. It only serves as a barrier to the "independent" force which the Federal Reserve is expected to exert on government monetary-fiscal policy formation.

4. Federal Reserve power to prescribe reserve requirements against deposits should be extended to all insured banks. This is clearly within the power of Congress, and is within the spirit of the existing F.D.I.C. Act which prescribes federal surveillance of all insured banks.

These administrative changes omit perhaps the most crucial consideration of all for effective monetary policy formation and participation in general government policy-making—that of obtaining and retaining top-calibre men. With outstanding leaders, the Federal Reserve will play a useful, influential rôle in government policy formation. Without them it will not, whatever formal administrative arrangements prevail. The goal of making Board membership more attractive to such men should bulk large in any consideration of potential statutory change; it is implied in the steps suggested above. To these most important inducements of increased responsibility and policy participation could be added higher salaries and freedom from the present special interest requirements that prescribe regional and economic group qualifications for Board members.

MEMORANDUM ON THE STABILITY OF DEMAND DEPOSITS

By C. R. WHITTLESEY*

What Mr. Hawtrey described as the "inherent instability of bank credit" has long held a central position in discussions of the commercial banking process; it is sometimes made to appear as the predominant characteristic of banking and even of the monetary system as a whole. The tendency for operations of the commercial banking system to produce inflationary effects in periods of inflation and deflationary effects in periods of deflation has been an integral part of the so-called monetary theory of the business cycle. Measures for combatting the tendency for deposits to expand or contract unduly have come to occupy an increasingly important place in central banking; indeed, the essential function of a central bank is said to be the creation and absorption of reserves for the purpose of promoting economic stability.¹

The effect of changes in the character of bank assets has been to alter the basis on which the alleged instability of bank credit rests. It must, therefore, be assumed that the phenomenon itself has been greatly modified. To say, for example, that a severe contraction of the volume of demand deposits (comparable, for example, with that which occurred in 1929-33) is no longer possible is less a forecast of the future than a corollary of developments which have already taken place. The passing of the "inherent instability of bank credit," certainly as the concept has customarily been understood, is of more than theoretical consequence. In view of the conspicuous place the concept has occupied in discussions of business cycles and central banking policy, the conclusion has important practical implications as well.

Instability of Bank Credit, Past and Present

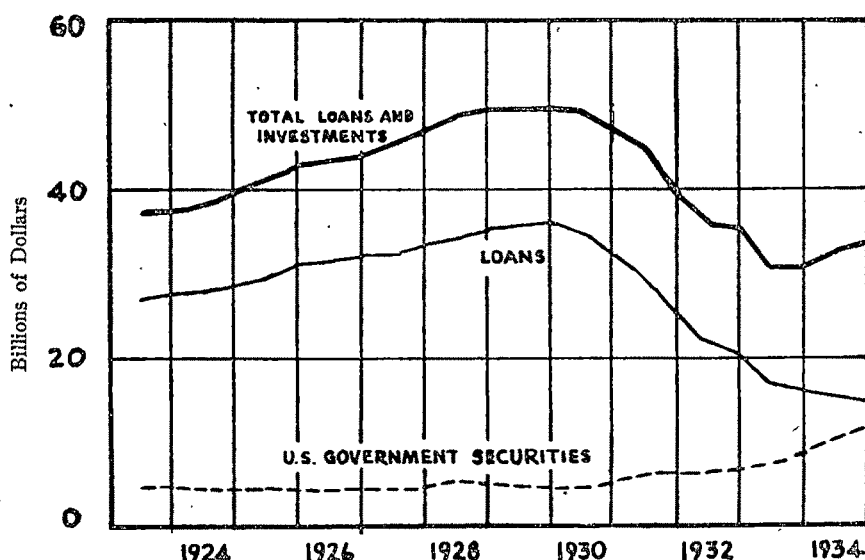
The theoretical explanation of the "inherent instability of bank credit" is essentially as follows. Creation of demand deposits is assumed to result from the granting of loans and discounts by commercial banks. The volume of loans and discounts will presumably vary with

*The author is professor of finance and economics, University of Pennsylvania, and economist of the Penn Mutual Life Insurance Company.

¹ Board of Governors of the Federal Reserve System, *Banking Studies* (Washington, 1941), pp. 17-18.

the dollar volume of business. Rising prices and increasing business activity will lead, therefore, to an expanding volume of bank deposits. The expansion of bank deposits, in turn, will contribute toward a continuation of the upward movement of the dollar volume of business. This combination of relationships provides all the elements of a continuing upward spiral. Conversely, falling prices and business activity will result in a contraction of loans and discounts, the calling of past loans, and in the end a contraction of demand deposits. The resulting destruction of circulating medium will contribute to a further down-

CHART I.—COMMERCIAL BANK LOANS AND U.S. GOVERNMENT SECURITIES, 1923-1934



Source: *Federal Reserve Charts*, December 1948, p. 11.

ward movement. Such a combination, on conventional quantity theory reasoning, provides the basis for a continuing downward spiral of prices and business activity.² The substance of this analysis is that bank credit is not only inherently unstable, but is unstable in a manner both sympathetic with and conducive to swings of the business cycle.

The connecting link in this description of the inherent instability of bank credit is the granting of loans and discounts by commercial banks. Accordingly, it is the diminished relative importance of commercial paper, or more specifically, the changed relationship between loans and government securities³ in the portfolios of commercial banks that pro-

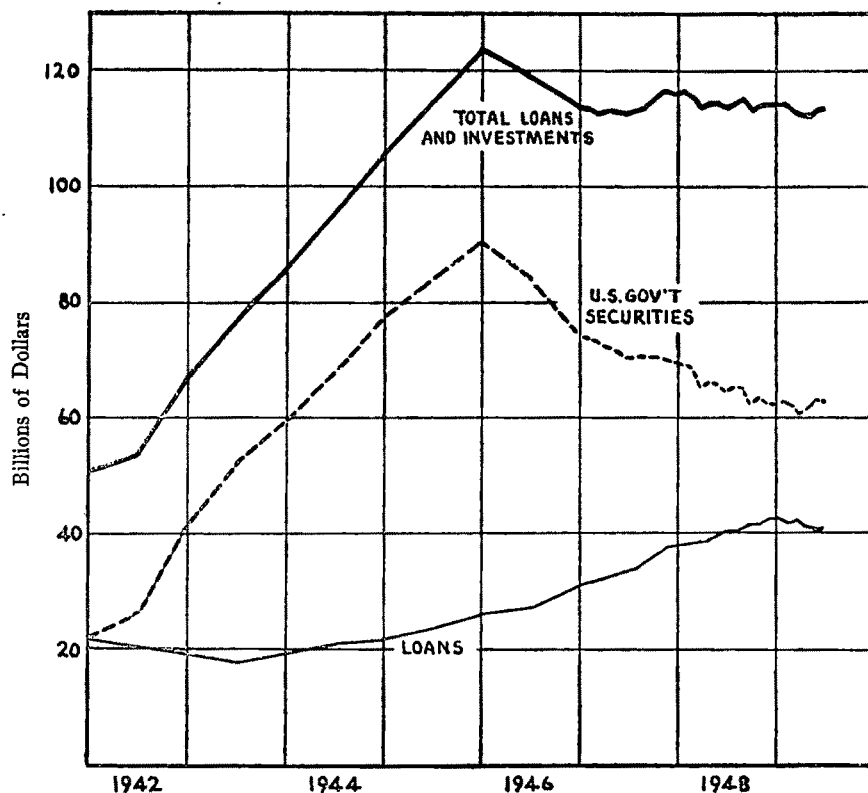
² Cf. the remark that "... prices, released from any physical standard of value, would vary without limit." R. G. Hawtrey, *Currency and Credit* (London, Longmans, 1928), p. 14.

³ The term government securities as used here refers to Treasury obligations only.

vides the principal reason for believing that bank deposits will no longer behave in an inherently unstable manner.

Throughout the 20's and the early 30's loans constituted the principal element in the earning assets of commercial banks (Chart I). The predominance of loans explains why what happened to the volume of loans was looked upon as determining what happened to the total

CHART II.—COMMERCIAL BANK LOANS AND U.S. GOVERNMENT SECURITIES, 1942-1949



Source: *Federal Reserve Charts*, August 1949, p. 9.

of demand deposits. In the decade of the 40's the relationship between loans and government securities in the portfolios of commercial banks came to be the reverse of what it was 20 years earlier. Today the principal element, quantitatively, among the earning assets of banks is government securities (Chart II). Thus, it would be consistent to argue that changes in their volume will tend to determine the movement of demand deposits. Or to the extent that they prove less volatile than loans, their relative stability would tend to moderate the effect of changes in the volume of loans. Since the volume of government securi-

ties held by commercial banks cannot be expected to behave in the manner that characterized holdings of loans and discounts, it would seem to follow that instability in the volume of deposits such as prevailed in the past can no longer be anticipated. Instability might conceivably occur, but it would not be instability of the former type. This conclusion is of substantial consequence, but it is possible to go much further than so negative a statement. Not only does it appear certain that the volume of bank deposits will no longer behave in the traditionally unstable manner;⁴ it is possible to argue that the volume of deposits can be expected in the future to behave in a relatively stable, and perhaps even stabilizing, manner.

At the end of 1945, government securities constituted nearly three-fourths of the earning assets of commercial banks. Even with the decline in bank holdings of governments and the growth of loans which occurred after the end of the war, Treasury obligations represented over 55 per cent of earning assets at the end of 1948 compared with only 10 per cent in June 1929.⁵ Not only is there no reason to expect the volume of these assets to rise and fall in sympathy with major changes in business conditions; there are historical as well as logical reasons for expecting them to move in the opposite manner. Historically, it may be noted that between 1929 and 1933, when the volume of commercial bank loans fell sharply from 35.7 billion dollars in June 1929 to 16.3 billion in June 1933, commercial bank holdings of United States government securities increased from 4.9 billion dollars to 7.5 billion (see also Chart I). At that time the proportion of governments was too small for the growth in their volume to exert a dominating influence on deposits. One may ask what would have been the effect on deposits if governments had constituted as large a proportion of total earning assets as they do today. If it could be assumed that the same tendencies would have prevailed with respect to changes in holdings of governments and non-governments including loans and that only the proportions were different, the total of deposits, instead of declining sharply as they did from 49 billion dollars to 31.9 billion, would have increased.⁶ The same general pattern of behavior was exhibited still more recently when the volume of government securities held by commercial banks declined substantially with expanding business and rising prices from 1945 to the middle of 1948. The earlier and sharper part of this decline is accounted for largely by the drawing down of

⁴ That is, sympathetic with and conducive to swings in the business cycle.

⁵ The question of possible fluctuations in the relatively smaller but still substantial volume of loans is examined below.

⁶ Since this is a purely hypothetical comparison, no attempt is made at refinement to limit the comparison to demand deposits, to eliminate interbank deposits and the like.

swollen Treasury deposits, but the decline continued in 1947-48 with no significant pressure from this source. Bank loans, on the other hand, followed the opposite course during the same periods.

Without suggesting that the correlation is perfect, it appears that historical evidence in these years, as also in the period 1919-22, supports fairly well the view that bank holdings of governments may move contrary to bank loans during major fluctuations in business activity. It would be unwise, however, to push the argument very far on historical evidence, inasmuch as the period since banks became important holders of Treasury obligations is short and has been influenced by various highly irregular factors.⁷ More convincing support is to be derived from deductive analysis.

The logical explanation of the difference to be anticipated in the behavior of bank holdings of governments and of loans is primarily that the total volume of loans and discounts is functionally related to the dollar volume of production and trade while the total of government debt outstanding tends, wars to one side, to increase in bad times and decline in good for budgetary reasons. It does not follow, of course, that the amounts of each type of asset held by banks will vary directly with their respective totals. Nevertheless, the totals are at least significant as influencing the supply available for purchase by banks.

A tendency for the amounts held by banks to vary, generally speaking, in the same direction as the totals of loans and governments outstanding is further strengthened by the consideration given to the relative quality of loans and Treasury obligations in different stages of the cycle. With a worsening of business conditions, banks not only call old loans and scan new loans more closely but in the past they have been forced by the supervisory authorities to adopt a more restrictive lending policy at such a time.⁸ The adherence by bank supervisors and Federal Reserve officials to relatively strict policies in the early 30's in pursuance of what they regarded as the sound principles of commercial banking and the gold standard is well known.⁹ While a negative attitude toward loans during a depression will presumably be less strong in the future, it cannot be supposed to have disappeared altogether. Holdings of government securities by banks, on the other hand, are wholly safe from criticism by supervisory authorities; on this point there appears to be complete agreement among

⁷ For example, the attitude of supervisory authorities, changes in reserve requirements, uncertainty with respect to interest rates, etc.

⁸ The 1938 ruling on bank examinations may be assumed to have relaxed somewhat the tendency toward greater stringency of loan procedure in bad times.

⁹ Compare also Homer Jones, "Rules and Procedures in Bank Examinations," *Jour. Pol. Econ.*, Vol. XLVIII, No. 2 (Apr., 1940), pp. 183-98.

officials and bankers alike. The disposition of bankers to shift to Treasury obligations in times of growing uncertainty because of the high quality of these securities¹⁰ is therefore reinforced by the fact that they are able to do so without risking the future displeasure of examiners.¹¹

The foregoing observations are sufficient by themselves to suggest that with the present high proportion of government securities in bank portfolios the basis of the "inherent instability of bank credit" has been fundamentally modified. This is not to say that instability of bank credit has become inconceivable,¹² but rather that such instability is scarcely "inherent" (certainly not for the same reasons) and that it cannot be expected to conform to the conventional pattern.

It is to be observed further that even within the much narrower ratio of total earning assets which loans now occupy in bank portfolios (38 per cent of combined loans and investments of all commercial banks at the end of 1948 against 72 per cent in the middle of 1929¹³) loans can hardly be expected to display as great a degree of instability as characterized their behavior in the past. The fact that the volume of bank loans doubled between 1944 and 1948 might seem to suggest that they are as unstable as ever, but it is significant that the loan portfolio differs from that of the past, not only in relative magnitude but also in the character of the loans themselves. Today, loans of commercial banks include a substantial volume of term loans, real estate loans, and consumer loans. The contractual maturity on loans of these types, consumer loans included, is much longer than that on loans of the types which predominated in the past. Because of these differences, they are not subject to automatic contraction to the extent that was possible earlier, nor is it possible for the banks or the authorities to force a contraction of loans to the degree that they could in the 30's.

¹⁰ This statement may seem to underestimate the effect of differences in interest rates. It reflects, first, a conviction that regard for quality may often be more important than rate of return in the decisions of bankers and, secondly, a recognition of the possibility of adjusting return on investments, within fairly broad limits, by modifying their maturity distribution.

¹¹ The great influence exerted on the action of bankers by the indicated or anticipated wishes of examiners has not been sufficiently recognized by students of banking.

¹² Any attempt to analyze the character of the instability that might arise with the present composition of bank portfolios would require assumptions concerning interest rate patterns, official support of the security market and attitudes on the part of bankers and supervisory officials into which it is not possible to enter here. The most reasonable expectation—as is perhaps sufficiently indicated in the text—is that, compared with the past, a high degree of stability of bank credit is more probable than a corresponding degree of instability.

¹³ No attempt is made here to discuss investments other than Treasury obligations. It is probable that separate consideration of them would strengthen the argument rather than otherwise.

Loans to brokers and dealers and loans on securities, both of which are subject to severe contraction in a falling market, represented a large volume of bank assets in 1929 but are negligible today. In view of these various changes within the loan portfolio, bank loans can no longer be expected to undergo as great contraction, spontaneous or induced, as characterized major depression periods in the past.

A final factor contributing to the stability of deposits is that cash assets, including legal reserves, represent a higher proportion of deposits today than formerly. Indeed, the mere fact that banks are now subject to roughly double the reserve requirements that prevailed before 1936 means that the multiple of deposit expansion—upon which, after all, the “inherent instability of credit” fundamentally rests—is about half what it used to be.

Relation of Deposit Stability to Cycle Analysis

The probable tendency for holding of government securities to counteract to some extent changes in the volume of loans and discounts in bank portfolios and, therefore, to promote the stability of bank deposits has been noted. Even on the conservative assumption that holdings of government did not change and that loans and discounts were as unstable as ever, the *relative* change in deposits would be considerably less than in the past. This follows from the fact that loans and discounts are so much smaller a proportion of the total assets of banks. The effect of such changes as may still be induced by variations in the loan portfolio will be modified by the fact that the total volume of circulating medium is now so large. The present situation resembles that which once applied with respect to the gold standard when the existence of a large stock of gold prevented annual additions to the supply from having a material effect on the value of gold.

The probability that increased stability of demand deposits will contribute to more stable price levels and business activity is suggested by familiar quantity theory reasoning. The possibility that greater stability in the volume of deposits will tend to reduce variations in the rate of turnover of deposits is likewise familiar. The reasoning is simply that a change in the volume of money, by causing a rise or fall in prices (again on quantity theory grounds), contributes to a speeding up or retardation of velocity in anticipation of further changes in the price level. In other terms, it alters the speculative motive for liquidity preference. However it is described, such changes in the rate of turnover would be lessened, presumably, by greater stability of the money supply.

Less widely recognized is the stabilizing effect on economic activity which tends to result automatically from changes in the level of prices

under conditions of a constant money supply. It has been pointed out that with a rise in the quantity of money relative to the volume of transactions, there must be either higher prices or greater liquidity.¹⁴ It can also be said that with falling prices and a relatively stable money supply there is an increase in liquidity.

In simplest terms, every decline in prices is an increase in the purchasing power of the dollar; if the number of dollars remain constant, the total money supply constitutes a larger sum of available purchasing power. With a stable money supply, rising prices reduce and falling prices increase total purchasing power in the hands of holders of money, meaning by total purchasing power the sum of goods and services which their money collectively represents. Total effective demand—that is, what actually *is* bought—does not necessarily increase with falling prices since rate of use of money may conceivably decline by enough to offset the increase in the goods equivalent of money. But potential demand—what *can be* bought at the velocity prevailing previously—necessarily does expand with falling prices and a constant money supply. Moreover, the probability that this potentially stabilizing influence will be defeated by a decrease in velocity should be less, as was previously noted, with a constant than with a contracting money supply.¹⁵

To the effect which falling prices may have on the community's liquidity through the money supply must be added the similar effect they may have on "near-money" and other types of liquid assets. The purchasing power represented by holdings of time deposits, war savings bonds, and other government obligations likewise increases, dollar for dollar, with a fall in the price level. In the past the volume of non-cash liquid assets was likely to decline with falling prices, and to the extent that they were in the form of obligations other than of the Treasury their quality was also likely to deteriorate. For both reasons the sum total of liquidity represented by non-cash assets, far from increasing, was almost certain to diminish in times of falling prices and worsening business conditions. In the case of the liquid assets for which the United States government is directly or indirectly responsible, this will no longer be true. For a significant segment of the assets, moreover, the Federal Reserve Banks provide an added source of liquidity.

¹⁴ See my *Principles and Practices of Money and Banking* (New York, Macmillan, 1948), pp. 423-24.

¹⁵ In alternative terminology, a change in prices alters the amount of money that has to be held to satisfy the transactions motive for liquidity. With a constant money supply, this exerts a stabilizing tendency on the price level, except as the tendency is offset by a contrary effect on the speculative or precautionary motive. The possibility of an offsetting effect would still exist, but presumably would be less strong than where the volume of deposits was also changing.

Thus we now have, in addition to a large and stable money supply, a large volume of other liquid assets whose liquidity seems assured.

If, then, the total volume of money and other liquid assets remain approximately constant, rising or falling prices produce an automatic stabilizing potentiality through reducing or increasing the sum total of purchasing power which these assets represent. The importance to be attached to this factor does not rest on acceptance of the view that the total of these assets will be completely stable. The same consideration applies in whatever degree the volume of money and other liquid assets is less unstable than in the past.

One of the principal contributions of Keynesian economics was to emphasize the effect of falling prices, including wages, on income and therefore on the chief source out of which expenditures could be made. While this line of reasoning stressed that "every level of production is potentially self-financing," it served to discredit the view that recovery could be achieved through the sort of price and wage reduction favored by those who advocate achieving adjustments by means of price flexibility.¹⁶

The logical conclusion from what has just been said about the importance of a constant money supply is that in the future the tacit classical assumption of a more or less constant total demand may become rather more realistic. Because of the size of liquid assets and their probable greater stability, it can no longer be assumed with the former certainty that falling commodity prices and wages will correspondingly reduce total spending. To an extent that was never possible in the past, a reduction in spending out of income may, conceivably, be compensated by an increase in spending out of liquid balances. We now have a situation, therefore, where the classical assumption of an elastic demand with falling commodity prices and wages might tend to hold true.

Translated into more concrete terms, this means that in a period of falling prices the community, as a whole, including businesses and individual consumers, may experience little or no shrinkage in the size of liquid balances. While the balances may be shifted about, the bulk of them, probably, will continue to exist somewhere in the economy: most of the money and near-money will still be present. Individuals and businesses which were holding working balances and balances for some particular use in the future are not likely to find these

¹⁶ There has frequently been a tendency to relate total effective demand too exclusively to income, and to disregard the possible relation of liquid balances to anticipations, investment and the consumption function. This sort of "crude" Keynesianism is suggestive of the crude quantity theory reasoning which characterized an earlier stage of monetary thinking.

balances vanishing before their eyes to the same extent as happened, say, after 1929. There would seem to be a greater probability, therefore, that they will employ these balances for their intended purposes. While the possibility, based on past experience, of a further decline in prices would still tend to discourage buying at current levels, the inclination to spend at each new low level would hardly be checked to the extent that it formerly was when the size of the public's cash balances was going down along with prices. The potentiality of sustained spending is not, of course, the same as the actuality. Even the potentiality constitutes a significant difference compared with the past, but in addition the potentiality not only permits but tends to produce the actuality: to whatever extent the potentiality is exercised it helps to check the decline, contradict pessimistic anticipations and induce optimistic anticipations. On the other hand, to the extent that the potentiality of increased purchasing is not exercised and the decline in prices continues, the greater is the rise in real value, *i.e.*, in potential purchasing power, of liquid balances and the greater the magnitude of the demand that can result from this source when spending is finally renewed.¹⁷

Implications for Monetary Policies

No one would insist that the present monetary outlook is altogether reassuring. The ability of member banks to convert a large proportion of their assets into reserves more or less at will may appear, for example, to constitute a danger of serious credit expansion. For those who still retain confidence in interest and discount rates as regulators of the volume of credit, moreover, efforts to maintain relatively stable interest rates may suggest resulting instability elsewhere. Whatever instability in the volume of credit may exist in the future will rest, however, on a different basis from that which gave rise to the concept of the "inherent instability of bank credit."

The different basis of possible instability of bank credit implies that monetary policy in the future must be of a different character from what it was in the past. The probability that future fluctuations in the volume of bank deposits will be smaller carries the further implication that monetary policy as we have known it will be less important than in the past, if for no other reason than that monetary policy has traditionally been directed primarily toward influencing the volume of circulating medium. Greater stability in the supply of money implies, in so far as the quantity theory has any validity at all, a more stable level of

¹⁷ The foregoing discussion is still based on the assumption that the total of money and near-money remains nearly constant. The reasoning applies partially, however, as long as the total is less unstable than in the past.

prices. Such changes in prices as do occur may tend to be associated more closely with changes in the rate of use of money and less closely with the total volume of money. This also would have policy implications, as will be noted presently.

To the extent that the volume of circulating medium maintains greater stability than in the past, it would seem to follow that the reduced effectiveness of the familiar instruments of Federal Reserve credit control is likely to be less serious than is now currently assumed. This would not be because the loss of effectiveness is less than has been alleged or because changes are to be anticipated which will restore their potency.¹⁸ It would be because these instruments of credit control are primarily devices for influencing the quantity of money, and the quantity of money had become a less volatile factor.

Assuming that the foregoing interpretation is correct and the total supply of circulating medium maintains a relatively high degree of stability compared with the past, it would seem that monetary policies of the future must be directed more to the use of money and less than heretofore to quantity. Selective credit controls are free of many of the shortcomings that attach to the more traditional instruments of policy and may be expected to assume greater importance. While they have their quantitative aspects, their focus is on non-monetary rather than monetary forms of credit. Moral suasion and other psychological methods of influencing business would be likely to experience greater development, along with new methods yet to be discovered. The vacuum left by the declining importance of monetary control would still further direct attention toward the use of fiscal policies, which are uniquely adapted to influencing the behavior rather than the quantity of money. Those who fear the rising importance of fiscal policy must

¹⁸ Mr. Randolph Burgess is authority for the statement that the principal effect of changes in the discount rate was psychological: "The most powerful influence of a rate change is . . . psychological. . . . The rate change was a pronouncement by well-informed men concerning the credit situation made at a time when a change in direction of movement was ready to occur or was in process due to other causes." *The Federal Reserve Banks and the Money Market* (New York, Harper, 1936), p. 230. According to this view a change in the discount rate was a form of sign language by which the Federal Reserve indicated its judgment concerning economic conditions. To say, as Mr. Burgess has elsewhere done (National Debt Series No. 7, Committee on Public Debt Policy [New York, 1948], p. 10), that loss of the discount weapon seriously interferes with the ability of the Federal Reserve Banks to control credit is to imply that there is no other way by which the Reserve authorities can satisfactorily indicate their opinion concerning the state of economic activity. Needless to say, I believe the first point of view is valid but not the second. With respect to the future, it is to be noted that the loss of Federal Reserve control over member bank reserves occurred when interest rates rose in 1947-48 to the ceilings set by the Federal Reserve (prices of governments fell to the support levels). For reasons that should have been apparent at the time, this movement was temporary; with the rise in prices of governments above the support levels (decline in interest rates), the condition of extreme weakness was largely overcome.

draw what encouragement they can from the hope that, with a more stable volume of money, business fluctuations will be more moderate and, therefore, there will be less occasion for fiscal and other policies for influencing business activity!

Greater stability of the money supply should tend to cut the ground from under the principal criticisms of the financial system and the leading proposals for financial reform. The "inherent instability of bank credit" was the basis of the chief attacks on the banking system. To the extent that it was regarded as a cause of cyclical fluctuations, it was the basis of some of the most persistent criticisms of the entire free enterprise system. Many of the plans for banking and monetary reform which bankers have found most objectionable, such as Fisher's 100 Per Cent Reserve Plan and the recent proposal advanced by the Federal Reserve Board for a special security reserve, are pointed directly against the traditional instability of bank credit.¹⁹

Amelioration of the inherent instability of bank credit and the emergence of a large and probably more constant volume of money and near-money are legacies of the Great Depression and the Second World War. It is a curious thought that two such great disturbances may have contributed substantially to the future stability of the monetary mechanism and even, perhaps, of the general level of economic activity. Basic to this potential stability of the money supply is the size and distribution of the federal debt. Thus it may turn out that the national debt, whose growth filled the financial community with continuing dismay, will have become a bulwark of its strength and stability.

¹⁹ The immediate purpose of the security reserve proposal, of course, was to limit the power of member banks to force the Reserve Banks to create reserves.

THEORY OF THE FIRM: SOME SUGGESTIONS FOR REVISION

By W W. COOPER*

To date the formal theory of the firm as presented, say, in most economic textbooks has successfully withstood various complaints and criticisms. Whatever sympathy we may tacitly feel concerning the validity of some of these complaints, the general feeling seems to be that this theoretical apparatus forms an indispensable tool for economic analysis. Without it (or some variant) the economist has no tools supplied from his discipline and is forced to rely instead on whatever judgment or insight he individually may possess.

One of the more serious charges that can be leveled against this theory concerns the rich variety of problems that preoccupation with this mechanism has excluded from the purview of the theorist. He has, perhaps, been somewhat too hasty in brushing aside fairly common patterns of business behavior as irrationality, frictions, or other categorizations. The following item from the *Wall Street Journal*¹ discussing recent price behavior of canned and frozen foods furnishes a case in point:

Four boom years of record farm income have buttressed the bargaining position of growers. Often in prewar, pressure from bankers to pay off notes frequently forced them to settle for prices below their wishes. Today they enjoy unprecedented financial independence.

Canners are reluctant to pay the prices the growers ask (in the face of large surpluses of canned and frozen foods); so the contracting for crops lags. A cannery association spokesman says: "Everybody is playing it cagey—holding back, sitting down and taking a look at inventories around the country, and waiting for the other fellow to make the first move."

Explanation of such behavior patterns is awkward within the confines of strict profit maximization. The all consuming category of uncertainty may be brought into play, but even this analysis becomes labored when it is noted that similar production conditions and price uncer-

* The author, who is associate professor of economics at Carnegie Institute of Technology, expresses indebtedness to Professors Kenneth Boulding, Jacob Marschak, and M. W. Reder for encouragement and suggestions. He has also had the benefit of discussions of an earlier draft with Professors James C. Bonbright, James L. Dohr, and William Vickrey as well as colleagues at Carnegie, particularly Professors G. L. Bach and Richard Cyert.

¹ Vol. CXXIX, No. 31, Thursday, February 6, 1947, p. 1. See also Vol. CXXVIII, No. 119, Monday, November 18, p. 1.

tainties have at times produced opposite results. (One of the difficulties of uncertainty theory as applied to the firm is that we have no effective measuring instrument.) A case might be made, it would seem, for analyzing the effect of the cash position of these "firms." In particular, a case might be made for analyzing the relation between cash position² and control retention—or, more generally, between liquidity, profit, and control.

The problem of control retention may be divided into two parts, what might be called the "inside" and the "outside" problems.³ In the first direction lies the task of formulating an adequate theory for describing the behavior of agents appointed by the entrepreneur and subjected to specific control mechanisms.⁴ In the second direction lies the province of top management. Since the first problem will be dealt with at greater length in a subsequent article, attention will be here devoted primarily to the second.

One of the characteristics that distinguishes top- from lower-echelon management is the problem of administering the equity accounts⁵—

² Various measures of cash, or liquidity, position might be adopted such as absolute cash position, quick ratios, current ratios, etc.

³ Such analyses might also throw considerable light on oligopoly behavior and the conditions under which "discipline" can be maintained. It seems reasonable to expect that when cash position has deteriorated to where control of the individual firm by the entrepreneur is imperiled, quite different behavior patterns may emerge than when cash position and control retention are "secure."

⁴ The problem of terminology is difficult. Since the words *micro* and *macro* have already been drawn into economics with specific meanings, the terms "atomistic" and "subatomistic" layers of the firm's operations might be used to describe the distinction drawn above.

⁵ It is surprising, for example, how high one can go in the official hierarchy of many large organizations without being able to locate persons who are familiar with the prices of factors and/or products with which they are dealing. I have elsewhere argued for the need for an approach to economics as an aspect of administration, including the problems of delegation and control. In a complex operation it is fairly common for even top management (including the entrepreneur) to know neither costs nor prices of particular commodities or orders. I hope to discuss the techniques of cost control in a subsequent article. As for prices, it is necessary to distinguish between specific pricing of the kind generally posited by theory, and a price policy for general commodity lines—e.g., "meet the market," "lead the market," "follow the leader," "cost plus," etc. Top management frequently confines itself to over-all policy formation and review.

A vivid illustration of what is involved has recently been drawn to my attention involving a large, nationally famous corporation which is generally regarded as something of a model of efficient business administration: The board of directors was convened to consider raising prices—i.e., changing the policy—over a wide variety of lines. Preparatory to the decision, certain subordinates had calculated price indices for the first time in the company's history. As a result of these calculations, it was discovered—because of delays between new orders and billings—an automatic price increase of considerable magnitude had already come into effect. Since the company would thus receive many millions of dollars in revenues that had not been expected and the anticipated losses would automatically disappear, the proposal to "increase prices" was abandoned.

⁶ I.e., both liabilities and net worth, including the problem of dividend declarations—a problem, it should be noted, about which contemporary theory is almost entirely silent.

The following quotation from Edwin L. Cady, *Industrial Purchasing* (New York, John Wiley

of so arranging the corporation's assets as to be able to meet impending claims and avoiding bankruptcy.⁶ Down-the-line management has virtually no contact with these problems. Neither "meeting next Thursday's pay roll" nor arranging financing is their immediate concern.⁷

& Sons, Inc., 1945) p. 171, is of interest in its discussion of division of responsibility between the purchasing agent and top management:

"Cash positions of companies make big differences. During business depressions as many as 90 per cent [sic] of all companies may find it hard to meet their weekly payrolls. If this is the case, inventories must be kept low no matter what the advantages of using them, unless the bankers will lend the company money with the inventory as collateral, or the company can borrow on some other basis so the payrolls can be met.

"Because of these (and other) factors . . . the control of inventory is seldom completely in the hands of the purchasing agent. Usually this is a subject for the financial management of the company including the president and the treasurer . . ."

⁶ Not only in the equity and statutory sense, but including quasi as well as legal reorganization. Again it should be noted that theory has been almost entirely silent on this important subject. (There is, of course, the notion of economic failure, but as N. S. Buchanan notes in "The Economics of Corporate Reorganization," *Quart. Jour. Econ.*, Vol. LIV, No. 1, p. 29, "An examination of the theoretical literature in economics reveals that writers have apparently not thought it necessary to define 'failure' and rarely even employ the term . . .")

Lack of theoretical analyses of bankruptcies and insolvency is surprising not only because bankruptcies represent an important imperfection but also because they tend to happen under circumstances and at "rates" (at phases of the cycle) which admit of "rationalized" solutions—both in the strict and broad sense of that term.

⁷ In economics, neither cash nor accrual concepts are ordinarily distinguished. As for profit maximization, it is difficult to discover by reference to economic literature whether it is rate of return on net worth, on cost, on sales, etc., which is being maximized. Throughout this article, it is profit in the accrual sense that will be utilized.

The above comments suggest the possibility of analyzing factor substitutions in terms not only of price but also cash flexibility. Labor, for example, whatever its price flexibility may be, is notoriously unyielding in terms of cash demands. Bondholders and stockholders, on the other hand, have often conceded short-run cash for the prospect of long-run price increases for their services. The following quotation from an article, "Union Responsibility Based on Information," *Labor's Monthly Survey*, Vol. 9, No. 11, p. 6, prepared by the American Federation of Labor instructing its members on the use of financial statements is of interest in this connection:

" . . . Most of its [the specimen company being analyzed] working capital is in inventories and accounts receivable, and it must count on selling its products quickly and collecting its bills promptly in order to meet its obligations. This means that if a large new order came in, the company might be pinched for cash to buy materials and hire more workers. Worse yet, if business dropped off and inventories sold more slowly the company might be short of cash, and in this case its first move might be to lay off workers. Adequate working capital helps to make workers' jobs more secure."

The company selected by the union for analysis is indulging in overtrading, as judged by the ratios of net sales to tangible net worth and net sales to net working capital. Cf. Roy A. Foulke, *Practical Financial Statement Analysis* (New York, McGraw-Hill, 1945), Chaps. XIV and XV. Should the company grant the recommended wage increase, serious impairment of its cash position would result from the reduction in government equity through the draw-down in accrued taxes. The union notes, in fact rests a large part of its case, on the tax reduction charged to profit and loss but does not project this effect into the balance sheet. Marked instability upon the occurrence of unforeseen factors is, of course, characteristic of companies engaged in overtrading—frequently highly profitable companies—and is what makes financial analysts cautious in approaching them. In view of the subject of this paper it is worth quoting Mr. Foulke's recommendation (*loc. cit.*) on the profitable Ladies Coat Company, Inc., which he has selected for analysis: "The only answer to overtrading [for this company] is for the

It is in this direction that control retention lies. Put somewhat differently, control retention frequently involves questions of reconciliation between profit-and-loss statement and balance-sheet considerations.

Turning to strictly theoretical aspects, it might be said that economics has at least two theories of the firm: the banking firm and the business firm. With slight exaggeration, it may be said that the theory of the business firm is presented entirely from the profit-and-loss statement point of view, while the bank is analyzed in terms of its balance sheet. In one case, an elaborate paraphernalia of cost and demand curves serves as the foundation of analysis. Profit maximization reigns supreme. In the other case, this apparatus disappears. Attention is focused on balance-sheet position, and primary emphasis shifts to liquidity (reserve maintenance) considerations as a means of meeting equity commitments (deposits).

It seems fair to assume that a more general theory of the firm, whether of the bank or business variety, would involve both balance-sheet and profit considerations. Moreover, control considerations need to be built into the theory. After all, the entrepreneur is not interested in maximizing profits *per se*. It is his profits that he seeks to maximize. Loss of control in the pursuit of profits may succeed only in maximizing someone else's profits. Fortunately, the problem of control maintenance (at the atomistic level) and the introduction of balance-sheet considerations seem to point in the same direction.

Control Maintenance at the Atomistic Level

Numerous methods suggest themselves for dealing with the problem of control maintenance at the atomistic level. For convenience, these numerous methods may be divided into the "direct" and "indirect" approaches. Professor M. W. Reder for example, has used a variant of the former in his article, "A Reconsideration of the Marginal Productivity Theory."⁸ In his approach, Dr. Reder assumes that an entrepreneur is confronted with two profit-output timepaths. The greater of the two profit paths, while abstractly more desirable, involves securing capital on terms, which, while financially advantageous, imperil control.⁹ Reder concludes that it is quite possible that the entrepreneur will not, as profit-maximizing theory implies, necessarily choose the greater of

management to plan and budget its operations so that [the highly profitable] net sales will not exceed a certain amount, that amount to be predicated upon the level of liabilities that will be incurred during the high point of the season, and the income [converted to liquid assets] to meet obligations on time with a reasonable margin."

⁸ *Jour. Pol. Econ.*, Vol. LV, No. 5 (Oct., 1947), pp. 450-58.

⁹ *E.g.*, the lender may require deposit of the controlling stock interest as collateral which the borrower agrees to forfeit under stipulated conditions. Other cases such as dilution of equity, etc., spring readily to mind.

the two paths.¹⁰ Although Reder does not develop his formal analysis further, he points out that it has serious consequences for various parts of economic theory.¹¹

Although this approach has the merit of bringing the control element directly to the fore, it also presents certain difficulties. For one thing, it is inflexible; for another, it is exceedingly difficult to obtain direct measures of control.¹² It does not adequately take into account various alternatives that the entrepreneur may have available. He may, for example, choose and select customers; he may offer differing discount arrangements; and he may use the business itself (perhaps at the expense of present profits) as a means of raising funds.¹³

In any event, the direct approach has been explored to some extent. Attention will therefore be directed here to the use of an indirect approach. For this purpose it is necessary to combine balance sheet and income statement measures. Since the balance sheet, which yields measures of liquidity, is primarily concerned with stocks (rather than flows), certain difficulties may be encountered. For the most part, these difficulties may be avoided by combining balance sheet with income statement measures. Thus, liquidity position may be defined in terms of a turnover rate of, say, cash to sales;¹⁴ profit may be defined as return on net worth, etc. To a large extent the choice of measures is arbitrary and will depend on the nature of the particular problem. The notion should, however, be clear. Two variables may then be defined: $M(t)$, cash position, and $\pi(t)$, profit position, at time t . Similarly, output position is defined as $q(t)$. From these variables, two preference functions may be constructed:

$$(1) \quad M(t) = \phi[q(t)]$$

$$(2) \quad \pi(t) = \psi[q(t)]$$

¹⁰ The choice will certainly depend in part on the difference in potential profits yielded by the two paths.

¹¹ On tax incidence theory, for example. In this connection it is perhaps worth quoting the results of the empirical study by J. K. Butters and Ralph Lintner, *The Effects of Taxes on Growing Business* (Boston, Harvard University, 1945), p. 2:

"High corporate taxes restrict the growth of small companies: (a) By greatly reducing the attractiveness of risky expansions to the managements of small companies; (b) By curtailing the amount of capital available from retained earnings to finance such expansions; and (c) By making the acquisition of outside capital on satisfactory terms much more difficult."

¹² E.g., the greater-than-fifty-per cent stock ownership criterion of the SEC and the ninety-per cent criterion of the federal tax laws have alike been found inadequate. No better alternative has been devised despite much effort. The point need not be labored; it is evident to all who have attempted to formulate statistical indices of business concentration.

¹³ The latter alternative is, of course, one variant of what E. A. G. Robinson in *The Structure of Competitive Industry* (London, Nisbeth & Co., Ltd., 1932), Chap. VIII, describes as "rushing the pessimism."

Footnote 10, *supra*, also describes an alternative which Reder does not discuss. Persons do go into business to make profits and are willing to take risks for the sake of greater profits.

¹⁴ Or to avoid difficulties arising from the possibility of maintaining, say, cash constant via borrowing, indices of quick or current ratios to sales, profits, etc., may be computed.

which may then be combined into a single preference function:

$$(3) \quad q(t) = F[M(t), \pi(t)].$$

Now the entrepreneur may wish to explore the neighborhood of his equilibrium values, or he may be subjected to certain "shocks" or "errors." To analyze his behavior in the neighborhood of equilibrium the following function is constructed:

$$(4) \quad q(t+1) = f[M(t), \pi(t)];$$

In words, output at time $(t+1)$ is dependent on cash position and profit position at time t . In contrast to (3) which represents a desired or satisfactory position, (4) may be depicted as representing actual position. The two equations may then be combined, and for equilibrium, or stationary values, the following result obtains:

$$(5) \quad \Delta q(t) = q(t+1) - q(t) = f - F = 0.$$

Numerous types of curves and forms of behavior about equilibrium may be analyzed with the aid of this equation,¹⁵ but attention will be restricted to a few cases of special interest.

Oscillatory and Non-Oscillatory Behavior of the Individual Firm

There are two basically different types of (stable) business behavior: oscillatory and non-oscillatory.¹⁶ As is perhaps obvious, the distinction will turn on whether cash and profit position move together when output varies. Both cases are presented in the following graph¹⁷:

In this diagram (Figure 1) points *AA* and *BB* represent points of equilibrium in the sense that $q(t) = q(t+1)$ and F , the desired position,

¹⁵ Equation (5), it will be noted, is a general form of difference equation in which a variable at one point in time is made a function of the same or other variables at another point in time. Professor Samuelson has analyzed, mathematically, a similar equation. See *Foundations of Economic Analysis* (Cambridge, Harvard University Press, 1947), pp. 302 ff. As he notes, it yields all of the qualitatively different types of behavior about equilibria points.

¹⁶ These may be further subdivided into stable, unstable, and neutral behavior. In the interest of simplicity and compactness attention will generally be restricted to stable cases.

¹⁷ Technically, it is the derivatives which are of interest. Monotonic stability is yielded by

$$0 < \frac{d\pi}{dM} < - \frac{\frac{\partial F}{\partial M} - \frac{\partial f}{\partial M}}{\frac{\partial F}{\partial \pi} - \frac{\partial f}{\partial \pi}} = \frac{D_M^q}{D_\pi^q}.$$

Oscillatory stability is yielded by $0 > (d\pi/dM) > (D_M^q/D_\pi^q)$. In these equations $d\pi/dM$ is the total rate of increase of π with a given increase in M . $\partial F/\partial M$ and $\partial F/\partial \pi$ represent the desired marginal cash and profit requirements of production, while $\partial f/\partial M$ and $\partial f/\partial \pi$ represent the actual requirements. Their differences, represented by D_M^q and D_π^q , may be called "displacements" of actual from desired position; of course, actual may exceed or be less than (or equal to) desired. In general, then, stability is achieved or not according to whether

consists of a 45° straight line through the origin.¹⁸ The two curves, f_1 and f_2 , represent paths of actual movement. Thus, if a displacement to the right to, say, $q(t_0)$ occurs, it will be seen that actual cash position is

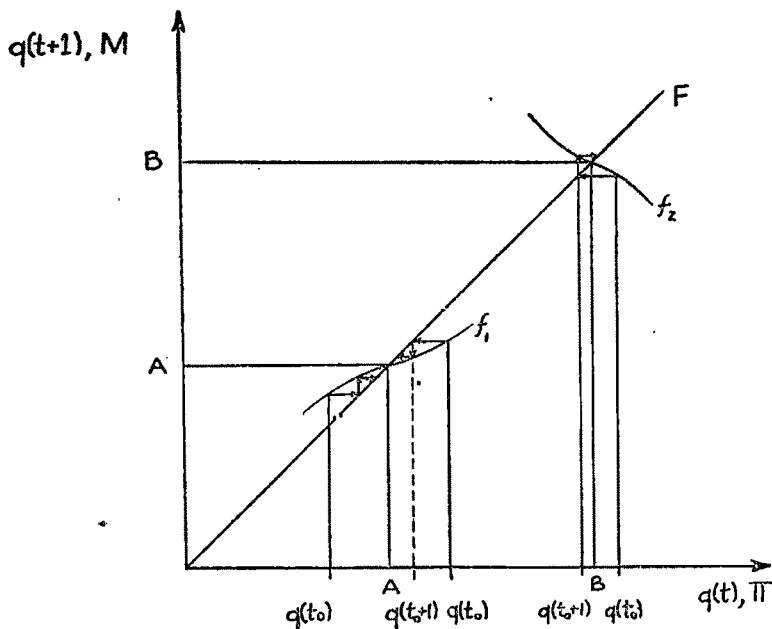


FIGURE 1

$$\left| \frac{d\pi}{dM} \right| \gtrless \left| \frac{D_M^q}{D_\pi^q} \right|.$$

That is, whether the actual total rate of expansion is numerically less than the ratio of the displacements.

When the equality sign holds, (first order) neutrality results. When the open end of the inequality sign faces right, stability occurs, and when it faces left, instability occurs. Stated in words, stability requires that, whatever the absolute rate of expansion, (the ratio of) displacement of actual from desired position must be numerically even greater. When they are just equal, the firm remains where it is (or oscillates in a fixed region) since it is no better off on moving from its new position. (Graphically, neutrality occurs when f is a horizontal straight line or is orthogonal to F .) When the expansion rate exceeds displacement, disequilibrium occurs: the firm once set in motion continues to expand or contract. The division between oscillatory and non-oscillatory motion is marked by a horizontal line while the division between oscillatory stability and instability is marked by a line perpendicular to the F curve.

¹⁸ The meaning of this line will subsequently be made more clear. For the present, suffice it to say that it not only presents the principles involved most simply but that F also has this shape and position by virtue of the definition of equilibrium adopted—i.e., $q(t+1) = q(t)$. This definition which is most closely allied with statics is, of course, arbitrary. It would be possible to define equilibrium as existing when $q(t+1) = kq(t)$, where k is some constant; or, more generally, $q(t+1) = \gamma[q(t)]$. The latter definitions would be more appropriate to dynamical systems where equilibrium is moving through time.

below the desired (viewed vertically) while actual profit position is above desired (viewed horizontally) for this level of output.¹⁹

Along f_1 both cash position and profit position would be more satisfactory (at this level) for output $q(t_0+1)$ and so adjustment is undertaken in the direction indicated by the arrow. The firm is, however, constrained to move along f_1 and so when $q(t_0+1)$ is reached, the situation is still unsatisfactory (although in less intense form) and further contraction is undertaken until equilibrium is reached again at AA . If the equilibrium point is overshot to $q(t_0)$ on the left, then profit position is unsatisfactory while cash position is more than satisfactory. Expansion will then occur until AA is reached. Thus, an actual path of the type f_1 is stable on both sides with one-way equilibrating motion occurring in both directions.

Turning to the f_2 curve, a displacement to $q(t_0)$ may again be visualized as occurring to the right of the equilibrium point BB . This level of cash and profit position is not appropriate to $q(t_0)$ but rather to $q(t_0+1)$ at the left of BB . As adjustment is effected to this level, however, the entrepreneur finds himself in a more favorable position and expansion occurs. With diminishing oscillatory movements, return to equilibrium is thus effected.

It is worth while now to try to analyze the economic factors that seem to lie behind these movements. It will be noted that in both cases, cash position fell below the desired level at $q(t_0)$. For the f_1 curve, upon displacement to the right of equilibrium, cash position decreases relatively but increases absolutely; for the f_2 curve, cash position decreases both relatively and absolutely. An economic interpretation of these phenomena of the following character is suggested: One-way stability occurs in the f_1 case because the absolute increase in cash position with expanded output allows the firm, despite its relative decrease in cash position, to adjust its output step by step to a satisfactory level. When both an absolute and relative decrease in cash position occurs, the firm is forced to make a more violent adjustment in an effort to restore its liquid position. The firm thus contracts beyond its point of equilibrium; with the relative and absolute increase in cash position it may then expand beyond the equilibrium point and recoup its profit position. And

¹⁹ With the assumptions implied by linearity, and uniqueness of the F curve, this can be interpreted to mean that stability implies that profit position increases at a less rapid rate than cash position multiplied by a proportionality factor. For $(\partial F/\partial \pi) = (\partial F/\partial M) = 1$, and, if we choose $(\frac{\partial f_1}{\partial M}) = 1/k$ at a point $q(t_0)$, then $(\frac{\partial f_1}{\partial \pi}) = k$; these two slopes are orthogonal. Thus, we have $0 < (d\pi/dM) < (1/k)$, or, $d\pi < (dM/k)$. The weighting factor, $1/k$, is yielded by the rate of increase of cash position; its reciprocal, k , is the profit weight. Stability then implies that $k < 1$, neutrality that $k = 1$, and instability that $k > 1$. This is merely another way of stating that stability requires that the actual rate of increase must be less than the desired. (The signs, incidentally, are reversed when $k < 0$.)

so on. The firm constantly exchanges cash for profit position, via oscillations in output, until equilibrium is restored.²⁰

What cases in the real world are likely to correspond to these types of behavior? It is impossible to answer this question without exhaustive empirical investigation.²¹ The world of theory, however, suggests certain cases. In many textbook discussions, at least, a sharp distinction is drawn between the theory of the bank and the business firm.²² As noted at the outset, one distinction lies in the direction of profit-maximizing and liquidity-preserving behavior. Another distinction, which is not always articulated, is that the theory of the business firm is presented in terms of equilibrium analysis while the theory of the bank is presented primarily as a disequilibrating process. Few, if any texts, discuss the behavior of the bank in the vicinity of equilibrium.²³ It is fairly obvious, then, that both discussions must be reduced to the same common denominator before comparisons can be drawn. This may, perhaps, best be done by investigating the behavior of these two types of firms in the neighborhood of equilibrium.²⁴

²⁰ Numerous other cases can be visualized by drawing appropriate curves. The firm may upon contraction beyond equilibrium find itself still unable to restore its cash position and further contraction occurs; on the other hand, the increase in cash position may be so large as to allow it to move forward to a new (ultimate) position of equilibrium, etc. Both stable and unstable and combined cases can easily be constructed. Moreover, the analysis can be conducted from the profit side (by reversing the axes of M and π), but the principle will remain unaffected.

²¹ The cash sales of certain types of "credit" sellers, which seem to occur with relative frequency, at least in certain types of retailing, seem to give evidence of oscillatory behavior. It is not possible to tell with certainty, however, whether such sales merely represent sharp trading practice.

²² In what follows it should be understood that it is the main outlines of formal theory that are being discussed rather than such theory as modified and qualified by particular teachers or research personnel. Such persons may make substantial modifications in their use of textual material. Conversations with numerous economists have convinced me that the above presentation is probably, at most, a presentation of these modifications in more systematic form than is, perhaps, ordinarily done.

²³ This is, perhaps, too strong a statement. Some texts note, for example, that a bank is required (or desires) to maintain its reserve ratio "on the average" rather than "at every moment of time." This implies, it should be noted, oscillatory behavior. As the bank reduces its reserve position below requirements, it increases its profit position, then, above the "equilibrium" level. If it is to maintain its reserve position "on the average" it must then contract its output (loans) and hence its profits below the equilibrium level at another point in time. Few, if any, texts proceed then to analyze whether such behavior is stable. It seems to be generally assumed that fluctuations will continue about this "equilibrium" and that no shift in "equilibrium" will occur.

²⁴ It should be noted (*cf. supra*, footnote 19) that the ordinary bank-type expansion formula can be derived from the equations that have been posited. Thus, we have $d\pi \geq (dM/k)$ (the inequality sign is reversed for $(d\pi/dM) < 0$) where $1/k$, the weighting factor is obviously related to the reserve requirements via the rate of expansion. (It should be noted that $1/k$ changes as movement along f occurs.) While little discussion of the relation between loans and profits can be found in the textbooks it seems fair to assume that profits are proportional to loans (output). Thus, we have $d\pi = cdq$ where c is the constant of proportionality. Upon

substitution in the above formula, and eliminating the inequality sign at equilibrium (*i.e.*, viewing equilibrium as neutral—or, alternatively, by multiplying by a large enough factor to eliminate the inequality) we obtained: $dq = (dM/k)$.

It may be of interest to present the diagrammatic picture (Fig. 2) as follows:

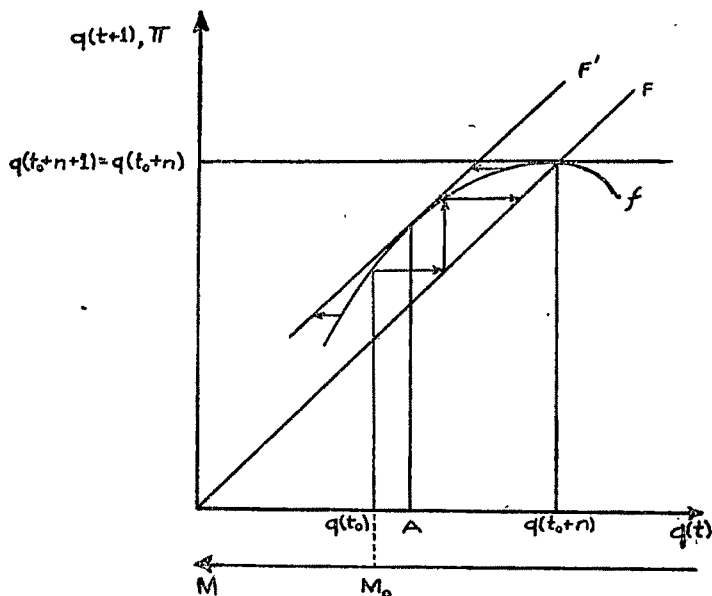


FIGURE 2

Assume that the bank begins at $q(t_0)$ with cash position M_0 in excess of requirements. (It should be noted that M is here drawn in the reverse direction since it is generally assumed that M decreases as output expands.) The bank will then, as indicated by the arrows, move along the f curve until equilibrium is reached. Trouble, however, arises at two points: $q(t_0+n)$ and A . At $q(t_0+n)$ profits are maximized but this implies then that the bank at equilibrium is independent of its cash position. In a narrow sense, this may create no particular psychological or logical difficulties since this result holds only at a point, and only if it be insisted that absolute profit maximization occurs here. Ordinarily this difficulty is avoided by choosing a particular K —by some averaging process or by some institutional device—and avoiding discussion of profit maximizing behavior. Actually this assumption (sometimes stated as the assumption that the firm has access to an infinite cash balance at the going rate of interest in markets in which it buys) is used in discussion of the business firm. It is obviously inapplicable to banks.

No particular difficulty occurs for business firms, but ultimately the size of any business firm is determined via diminishing proportions as long as a fixed factor is assumed in the analysis. No such limitation is present for banks. Practically, the point may be of small interest since, in the United States at least, ready-made institutional limitations lie at hand. Nevertheless, throughout stretches of history and, indeed, in parts of the contemporary world no such institutional restrictions exist. On special assumptions, the principle of increasing risk may be brought into play to limit the size of the individual bank. In general, however, both statistical and administrative reasons point in the opposite direction.

Point A is also of interest since for the right-hand member of the inequality it yields the indeterminate form $0/0$. (*I.e.*, at this point, $(\partial F/\partial \pi) = (\partial f/\partial \pi)$ and $(\partial F/\partial M) = (\partial f/\partial M)$.) It is, of course, the point where disequilibrium ceases and equilibration begins. An economic significance may be attached to this point for it also offers an alternative choice to the entrepreneur. He may be interested in maximizing his position relative to requirements. (This, it

Various writers have attempted to distinguish between bank-type and business-type firms.²⁵ Business-type firms may be said to receive at least partial cash payment for the sale of goods. When this happens, the absolute size of their cash position may increase even though the relative position falls. When such is the case, monotonic stability (or instability) will occur. The peculiarity of a bank—at least of the textbook variety—seems to be that what it sells is cash for which no cash payment is received at time of sale. This results in absolute deterioration of cash position, and hence oscillatory behavior.²⁶

The requirement that cash position reduce absolutely as well as relatively may perhaps be viewed as too strong. This condition may be now relaxed. It proves to be only a special case of a more general phenomenon in which liquid and profit position move inversely when referred to the common sequence of desired points.²⁷ A simple case illustrating the type of movements to be expected under these conditions is presented in Figure 3.

will be seen, implies that he alters his choice of weights as to the relative importance to be attached to cash and profit position.) When this is done, only one-sided stability is manifested. (This may be seen by shifting the F curve downward to the F' position, which may be done since it is the movements rather than the particular point values which are of interest.) Movement to the right results in contraction toward equilibrium; movement to the left results in one-way further contraction. It is this type of behavior which some writers may have in mind when they state that the banks may be "too stable" downward—*e.g.*, when they are trying primarily to protect their cash position.

²⁵ *Vide*, J. R. Hicks, *Value and Capital*, p. 241: "Every business has, at any moment, a certain amount of claims against it, which it may be called upon to meet at dates which cannot be quite certainly predicted. The clearest case of this is, of course, the case of banks, which live by acquiring such liabilities and therefore have an exceptional amount of them." Since Hicks does not discuss the subject further, it is difficult to ascertain what distinction he is attempting to draw. Does he mean that banks have exceptionally low quick or current ratios? This is clearly not the case. Many types of business display lower ratios and other types display, of course, higher ratios. As for individual business ratios, it is impossible to generalize. But many businesses must display considerable variation in their financial ratios over the years. If Hicks is referring only to the absolute size of current liabilities, his statement would make it difficult to draw comparisons between firms.

²⁶ As will be remembered, it is stable *equilibrium* analysis which is of primary interest. Oscillatory unstable behavior may be thought of, perhaps, in terms of a stock market plunger or an old fashioned investment bank. At one point of time cash is largely tied up in security issues which are then liquidated (including seasoning operations) and a new process of expansion begun, assuming successful operations. Thus the activity results in constantly expanding interchanges between profit position and cash position as the firm continues to grow. (Since output, loans, also oscillates, growth must be measured, say, by total assets.)

²⁷ The sequence of points need not, however, be common in the sense of coincident. In Figure 3, a single straight line is used for purposes of simplicity in illustration. Equation (4) may be decomposed into:

$$(6) \quad q(t+1) = f_1[M(t)] \quad \text{and}$$

$$(7) \quad q(t+1) = f_2[\pi(t)].$$

Similarly, equations (1) and (2) may be solved to yield:

$$(8) \quad q(t) = \phi^{-1}[M(t)]$$

In this case the profits curve, π , and the liquidity curve, M , are drawn on opposite sides of the curve of desired positions, F . Thus π is more than satisfactory (at a given output) and indicates further expansion while M is less than satisfactory (at a given output) and indicates contraction. At $q(t_0)$ the level of liquidity attained would be satisfactory at the output level indicated by the arrow A; the profit level is that indicated by the arrow B. The two opposing forces then yield a compromise solution indicated by the arrow AB for output level $q(t_0+1)$. Output is expanded. The process might be described as the profit force prov-

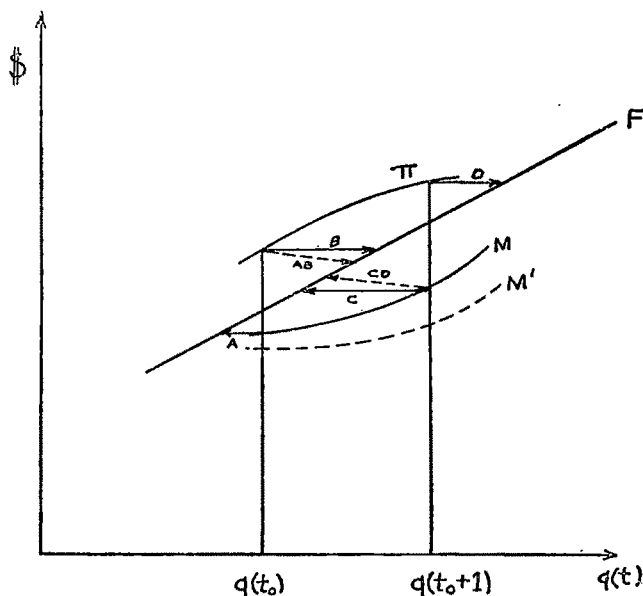


FIGURE 3

$$(9) \quad q(t) = \psi^{-1}[\pi(t)].$$

Upon combining (6) and (8), and (7) and (9), differencing and then differentiating the following two equations are obtained:

$$(10) \quad \frac{dM}{dq} \left(\frac{\partial f_1}{\partial M} - \frac{\partial \phi^{-1}}{\partial M} \right) \geq 0$$

$$(11) \quad \frac{d\pi}{dq} \left(\frac{\partial f_2}{\partial \pi} - \frac{\partial \psi^{-1}}{\partial \pi} \right) \geq 0.$$

These equations may then be combined (with due regard to the inequality signs) to yield:

$$(12) \quad 0 \leq \frac{d\pi}{dM} \geq \frac{\frac{\partial \phi^{-1}}{\partial M} - \frac{\partial f_1}{\partial M}}{\frac{\partial \phi^{-1}}{\partial \pi} - \frac{\partial f_2}{\partial \pi}}.$$

The formal (qualitative) properties of this equation are the same as the one used previously.

ing relatively more powerful than the liquidity force and hence resulting in expansion despite the risk to control retention that is implied.

At the new output level, $q(t_0 + 1)$, the strength of the forces is now reversed. C , the liquidity arrow is now longer than D , the profit arrow. The firm thus contracts in an attempt to restore its cash position, as indicated by the arrow CD . (Having achieved a high enough level of profit, it might be said, the profit drive is weakened since the opportunity for larger profits decreases relatively while the incentive toward increased liquidity is strengthened. Liquidity considerations become dominant.) Thus, the firm proceeds by oscillating movements to a point (if it exists on the time path) where the opposing forces exactly cancel. Upon displacement the oscillatory process again occurs.²⁸

At this point it is perhaps worth pausing to note that the traditional textbook approach does imply that the bank-type firm is one in which cash position and profit position move inversely. In the neighborhood of equilibrium they move on opposite sides of the desired (required) position and hence tend to result in oscillatory behavior. This observation may be of some importance for the policy conclusions frequently drawn about the control of bank behavior and stabilization of economic behavior. The usual policy recommendations for raising reserve requirements and engaging in open market operations may then have the opposite results from those intended. By driving the banks to equilibrium (or beyond), such policies may actually engender instabilities by stimulating oscillatory behavior on the part of the banks and (through a process akin to sympathetic vibrations) transmit these behavior patterns to the entire economy. Instability rather than stability may therefore result.²⁹ Of

²⁸ The arrows drawn in the chart and the description given above are only approximately accurate, but sufficient for qualitative purposes. More strictly, if π and M be described as the curves of total profits and liquidity (rather than their derivatives), it is both the distance and the rates of change which are of interest. The process might be visualized diagrammatically something along the following lines. At the initial point draw the tangents to the curve. This determines the gradient. The magnitude and direction of the vectors may be then determined as follows: draw circular arcs from the radius (at the point of tangency) of length equal to the distance from the actual to the F curve. When the actual curve, π , lies above the F curve, turn the radius about the point of tangency upward to the right; when the actual, M , lies below the F curve, pivot the radius downward to the left. The intersection of the circular arcs with the tangents then determine the length and direction of the vectors. The resultant may then be computed.

It should then be noted that equilibrium requires not only that the tangents to the two actual curves be equal but also that, at such a point, the curves must also lie equidistant from F . In general, such conditions will probably not be met so that firms subject to inverse movements of π and M will engage in continuing oscillatory behavior.

²⁹ I have not yet analyzed completely the precise conditions under which stable business-type and stable bank-type behavior will, when combined, result in unstable aggregate behavior. It would seem, however, that two conditions are necessary for the emergence of instability despite the stability of the banking and business sectors. These conditions are (1) that the bank-type firms should be trading (borrowing and repaying) with each other and (2) that the bank-type firms should be dominant in the sense that the preponderant volume of business is conducted by them. (Bank-type firms are not necessarily coincident with legally defined banks.)

the two approaches (raising reserve requirements and open-market operations) the latter is the more likely to yield instability since it will tend to (1) draw down reserves of bank-type firms and (2) force business-type firms into bank-type behavior. The second of these two results is accomplished because the drawing down of the money supply while, say, the firm is expanding will force liquid position to move in the opposite direction to profit position even in cases where such results would not "naturally" have happened.

Another aspect of stabilization control frequently adverted to in economic literature is tax policy. In so far as the above remarks with respect to maintenance of liquidity position and monetary policy are applicable, they must enter into tax considerations as well. For taxes must, in general, be paid in cash. Thus, it may be that the theory of incidence and shifting of taxes on business profits also requires reconsideration. In so far as liquidity considerations enter into business policy, it seems clear that the time paths, if not the ultimate positions of equilibrium, will be affected. But even the positions of ultimate equilibrium may be affected. Thus in Figure 3, the M' curve represents the shift in the M curve which follows the imposition of a progressive tax on the firm's profits—the π curve. For bank-type firms, the case seems clear.³⁰ But even business-type firms concerned with maintenance of liquidity position will display similar effects. Thus in Figure 1, a proportional tax on profits which must be paid in cash will shift the f_1 curve vertically downward and hence alter the position of equilibrium. If a progressive tax is levied, the curve will not only shift position but change shape. Thus, the impact of the tax may also alter the basic pattern of behavior of the firm—from one-way to oscillatory movement.

Liquidity Position and the Theory of the Business Firm

Rather than pursue further the policy implications of the introduction of liquidity and control maintenance considerations into entrepreneurial decision-making, it may be of interest to examine the possible correspondence with more traditional treatments. Although it is difficult to ascertain precisely what assumptions are made with respect to liquidity position and control maintenance in business-firm theory, there are certain theorems which will, if analyzed, permit of more or less valid conjectures. For example, it is usually assumed that under profit maximizing behavior "the firm" will proceed to where $d\pi = 0$. Further-

The above approach may also contain suggestions for phases of the economic aggregation problem. By building the monetary variable in at the micro level it becomes possible to pass with relative ease to the macro level. Incidentally, the above approach suggests that turning points in business cycles, when banks have reached equilibrium reserve positions, would be marked by turbulence rather than the smooth downturns posited by some writers on cycles.

³⁰ This should not be interpreted to imply that writers, on tax shifting, have argued that taxes on bank profits, which must be paid in cash, are not shifted.

more, it is usually assumed that $d^2\pi < 0$. With the aid of diagrams, the implications of these conclusions for liquidity position and control maintenance may, perhaps, be analyzed.³¹

³¹ The mathematical analysis of these higher order stability conditions becomes quite involved. Samuelson (*op. cit.*, p. 306) has provided an exhaustive mathematical analysis which makes repetition superfluous. What is involved, may, however, be seen with the aid of Figure 4.

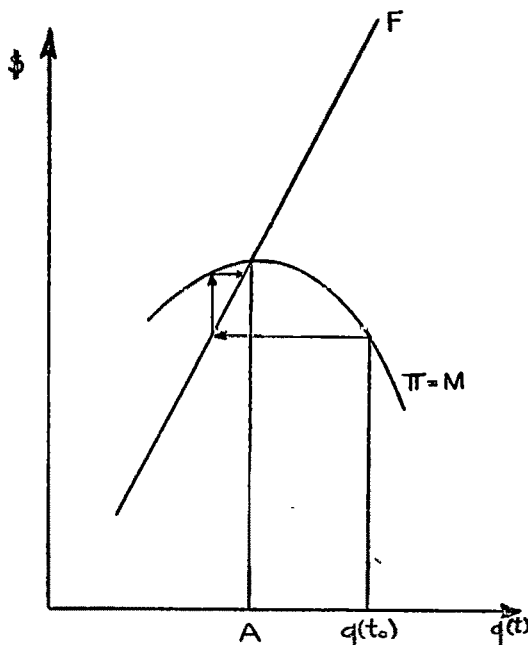


FIGURE 4

In this diagram only the π , or total profits curve, has been drawn in such a way that the maximum point, A , intersects the F curve. If we assume, as may be implied by some writers, that all profits are cash profits, then the π and M curves become coincident. The case is stable; but displacement to the right yields oscillatory stability (in the sense that the adjustment is then to the left of A), while displacement to the left yields monotonic (or asymptotic) stability—as indicated by the arrows on the diagram. Not only is a double valued function involved, but a point of singularity as well, in which certain of the derivatives become zero and others become infinite. The maximum point at A lies on the horizontal line which divides one way and oscillatory behavior. Moreover, there are various points of neutrality which yield $f' = F'$ or $f' = -F'$ which divide stable from unstable behavior

$$\left(\frac{d\pi}{dM} = \pm \frac{D_M^q}{D_\pi^q} \right).$$

Finally, if it be assumed that either f' or F' equals zero, then

$$\frac{d\pi}{dM} = - \frac{\frac{\partial f}{\partial M}}{\frac{\partial f}{\partial \pi}} = - \frac{\frac{\partial F}{\partial M}}{\frac{\partial F}{\partial \pi}},$$

Although the first order condition, $d\pi=0$, results in no particular difficulties, the second order condition, $d^2\pi<0$, may yield oscillatory rather than monotonic behavior. This is not what might be expected from the smooth adjustments ordinarily posited in the theory of the firm.

The concept of control loss through unsatisfactory profit position, although not perhaps as sharp as might be desired, can be fairly handled within the usual theory of the firm. It is the concept of control loss, through unsatisfactory liquid position that offers the most difficulty. That control loss can occur from this direction seems to be a fact of business experience beyond dispute. Not only small, but large business firms have been subjected to this danger, if not actual experience.³²

In Figure 5, an attempt is made to bring these various features together in a form which seems to approximate ordinary theory. Along the horizontal and vertical positions are plotted profit and cash position, π and M . On opposite axes are plotted risk of control loss through π and M which are assumed to decrease (increase) as π and M increase (decrease). The q_1 and q_2 curves represent various combinations of cash and profit positions which can be obtained for a fixed output position—e.g., q_1 —under different policy arrangements affecting price and credit terms, selection of customers, etc. The diagram is plotted so that $q_2 > q_1$; i.e., the larger subscript indicates the larger output.³³

Reading from the upper right-hand corner, the I curves represent indifference curves which descend in level proceeding outward from the origin.³⁴ Thus I_1 represents a lower level of indifference than I_2 .

or the marginal rate of expansion is equal to the ratio of the desired and actual marginal rates of transformation. Presumably in the usual theory these are all zero so that either or both the numerator becomes zero (implying that both actual and desired rates are independent of cash position at equilibrium) and the denominator becomes infinite.

If it be assumed that both

$$\frac{d\pi}{dq} = 0 \quad \text{and} \quad \frac{dM}{dq} = 0 \quad \text{then} \quad 0 \leq \frac{d^2\pi}{dq^2} \leq \frac{D_M^q}{D_\pi^q} \frac{d^2M}{dq^2};$$

in this form a proportionality—at equilibrium—between profit and cash position rates of increase is established. It is not possible to analyze this equation further in this article. The case,

$$\frac{d^2\pi}{dq^2} < 0 < \frac{D_M^q}{D_\pi^q} \frac{d^2M}{dq^2},$$

yields oscillatory rather than monotonic stability.

³² In bankruptcy reorganization cases, cash considerations have frequently proved decisive. The old "upset" price was a species of this phenomenon as well as the hard bargains that stockholders interests were able to drive on occasion. Even the revised federal bankruptcy statutes have not adequately handled the difficulty.

³³ These levels are determined from a three dimensional surface with π and M plotted on the horizontal axes and q on the vertical axis. More generally, since π and M , as functions of q , would not reach their maxima at the same levels, crossing over of the q curves would occur.

³⁴ The linearity of these curves implies that the entrepreneur views risk of control loss through M and π as perfect substitutes.

Assume now that the entrepreneur finds himself at a point P on q_1 . By moving along q_1 (by changing his price and payment policies) he may thus move to higher levels of indifference. The highest level he can achieve with this output is π_0, M_0 , where q_1 is tangent to I_1 , and which may thus be labeled a point of equilibrium. The equilibrium is, however, unstable; the slightest displacement along I_1 allows the entrepreneur to move along a new, and greater, q curve, to an even higher level of indifference. At the point of intersection with q_2 , for example, the entrepreneur may then move along q_2 to I_2 , and so on, until he reaches the maximum possible level of indifference which his own operating conditions and risk preferences make possible. The E curve thus represents the sequence of equilibrium points.

Movement, as output expands, is thus oscillatory between π and M , although output position is monotone (never decreasing). Even though output position may be the same as that posited by simple profit-maximizing behavior, the price (or other business policies) may well be different.³⁵

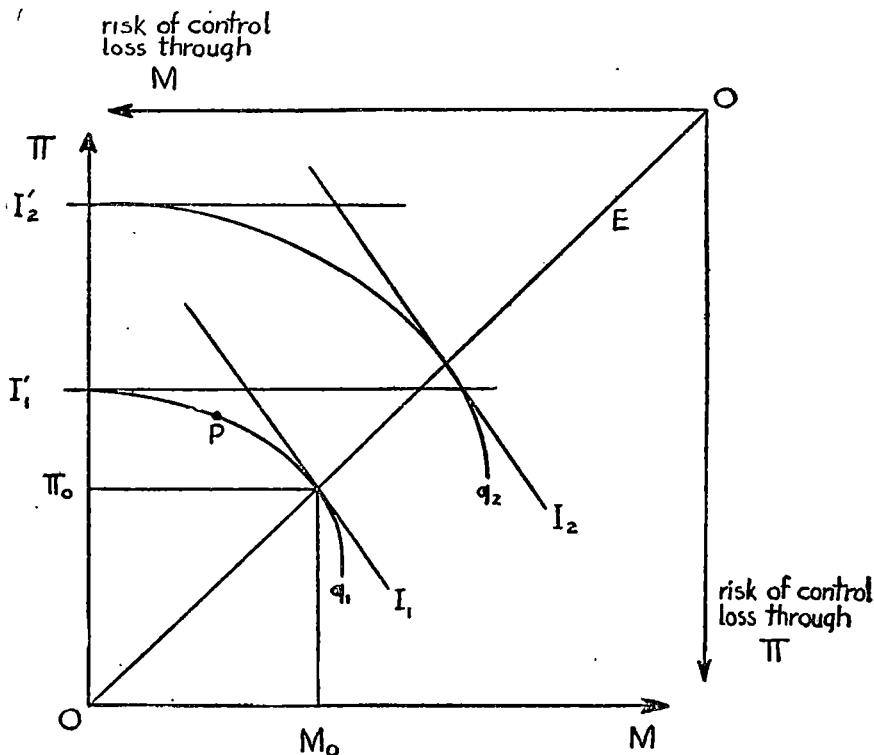


FIGURE 5

³⁵ The output position may also be different, especially if crossing over, as would generally happen, were allowed between the q curves. Even in the simple case utilized here, it should be noted that a tax on profits payable in cash would alter the shape of the q curves—generally at every point except at $M=0$.

I_1' and I_2' represent indifference curves which are independent of liquid position and hence of risk of control loss through deficiencies of M . This case may be thought of as corresponding more closely to the usual theory. But again behavior is oscillatory: the firm moving from P along q_1 up to I_1' and then to a new output level and a higher indifference curve.³⁶ The whole oscillation appears, however, in M ; both π and q are monotonic (never decreasing). Increased cash position may be required (or an inevitable consequence of) expansion, but once π is maximized, the entrepreneur—e.g., through an appropriate withdrawal policy—need maintain only a zero cash position. It is these cash oscillations which are not ordinarily described in business firm theory.

The entrepreneur may, of course, be independent of cash position in another sense which can be shown by making the I curve coincident with the π axis. Although this implies that the entrepreneur is then independent of risk of control loss through π as well as M , a valid interpretation is nevertheless possible. The firm may be viewed as moving "instantly" to its maximum position.³⁷ Since it occupies this position "instantly," the risk of control loss through π is fixed at every finite interval of time. Obviously, oscillatory movement in none of the variables occurs in this case.

Although it is difficult to disentangle precisely the assumptions that are ordinarily made concerning risk of control loss and liquid position, the above analysis may possibly serve to suggest what some of these assumptions may be.³⁸ At any rate, it seems worth while exploring the possibilities of introducing control and liquidity considerations more fully into the theory of business behavior.

Conclusion

Whatever the merits of the formal analysis presented in this paper, the quotation from the *Wall Street Journal* introduced at the outset, as well as the facts of everyday business experience suggest that liquidity position and control considerations are of great contemporary impor-

³⁶ The actual path followed cannot be determined without further assumptions—e.g., as to the entrepreneur's "hurry" to reach his maximum π .

³⁷ This may perhaps be referred to as the "stationary" case and the preceding one as the "static" case. In neither case will a cash tax affect the ultimate position, although it may affect the path of movement in the "static" case.

³⁸ If q_2 is assumed as yielding maximum π , then further output expansion will cause the q curve to recede—i.e., the maximum profit position will have been passed on the q axis in the three dimensional diagram noted in footnote 33. Crossing over will almost certainly occur. If it be assumed, however, that over the relevant range, the relative overexpansion results in a curve q_1' coincident with q_1 then the entrepreneur will be at the same level of indifference on both curves. His most easily made adjustment is thus to q_1 . The process might be viewed somewhat as follows. Having overexpanded he attempts first to achieve optimum returns from this output by adjusting his price and credit policies. As a result of these policies, he finds (perhaps in a manner analogous to Marshall's "spoiling the market") that he would be equally well off by contracting his output to q_1 . After doing so, he may then expand back to his maximum position.

tance in deciding business conduct. That these notions also possess historical significance is suggested by the following quotation from R. H. Tawney's *Religion and the Rise of Capitalism*.³⁹

The grievances which supplied fuel to social agitation, which evoked programs of social reform, and which prompted both legislation and administrative activity, sprang, not from the exploitation of a wage-earning proletariat by its employers, but from the relation of the producer to the landlord of whom he held, the dealer with whom he bought and sold, and the local capitalist, often the dealer in another guise, to whom he ran into debt. The farmer must borrow money when the season is bad, or merely to finance the interval between sowing and harvest. The craftsman must buy raw materials on credit and get advances before his wares are sold. The young tradesman must scrape together a little capital before he can set up shop. Even the cottager who buys grain at the local market, must constantly ask the seller to "give a day." Almost everyone, therefore, at one time or another, has need of the money-lender. And the lender is often a monopolist—"a money-master," a malster or corn monger, "a rich priest," who is the solitary capitalist in a community of peasants and artisans. Naturally, he is apt to become their master.

³⁹ (Pelican Books ed., 1947), p. 30.

TAXES, SAVING, AND INFLATION

By JAMES TOBIN

During the postwar inflation in the United States, Professor Sumner Slichter proposed a reduction of personal income taxes on the portion of income saved.¹ The immediate objective of the proposal was to encourage individual saving as a means of fighting the inflation. In addition, Professor Slichter believes it to be social wisdom to devote a larger share of full employment national income to saving and investment. To this end he offered his plan as a permanent feature of the tax system. This suggestion was enthusiastically seconded by Professor David McCord Wright,² both because he favors more saving and investment and because he believes the long-run prospects of the economy are inflationary.

As an anti-inflationary weapon, the plan has the great advantage of being politically painless.³ Conventional anti-inflationary measures are never popular. But this proposal offers taxpayers, instead of an increase in income tax rates, a reduction in their tax liability. Indeed, Professor Slichter claimed that cutting tax rates during the inflation in 1948 would be harmless if accompanied by his proposal.⁴

The plan is to permit the taxpayer to exclude his saving, or some fraction thereof,⁵ from his taxable income. Saving would be a "deduction," like charitable contributions or medical expenses. From the individual taxpayer's viewpoint, the plan is equivalent to replacing part or all of the income tax by a tax on his consumption expenditures.⁶

¹ S. Slichter, "The Problem of Inflation," *Rev. Econ. Stat.*, Vol. XXX, No. 1 (Feb., 1948), p.5, and "Tax Formula: for Savers, Lower Levies," *New York Times Magazine*, January 25, 1948. The argument that the income tax should not apply to saved income has a long history, which, together with a vigorous espousal of the thesis, may be found in Irving Fisher and H. W. Fisher, *Constructive Income Taxation* (New York, 1942).

² D. McC. Wright, "Inflation and Equality," *Am. Econ. Rev.* Vol. XXXVIII, No. 5 (Dec. 1948), p. 895.

³ Cf. Slichter, "Tax Formula," *loc. cit.*

⁴ *Ibid.*

⁵ Professor Slichter suggests one-third.

⁶ For a taxpayer with positive saving, the relationship between an income tax with saving exempted and a spending tax is as follows: Let Y be the taxpayer's income before taxes, C his consumption expenditure, S his saving, and R his tax liability. $C + S + R = Y$. Under conventional income taxation, R is a function of Y , $R(Y)$. Under the Slichter proposal, $R = R(Y - bS)$ where b is the fraction of saving permitted to be exempted

Thus the Slichter proposal is closely related to the expenditures tax advocated by Wallis and Friedman as a wartime measure.⁷ But while Wallis and Friedman proposed to combat inflation by temporarily adding an expenditures tax to the existing income tax, Slichter proposes to replace permanently the existing income tax, or part of it, by a tax on consumption.

How effective would exemption of saving from taxation be in weakening inflationary pressure? The privilege would certainly raise the amount of saving forthcoming from any given level of income before taxes. But saving may be increased at the expense either of taxes or of consumption. Substitution of saving for tax payments is of no help in a fight against inflation; it may even be a step backwards. Giving consumers a larger cushion of accumulated savings may strengthen their propensity to consume in subsequent years. Moreover, substitution of saving for taxes means that more government obligations are outstanding; and these obligations are actually or potentially bank reserves under present monetary arrangements. Professor Slichter argues that the availability of more current saving by individuals would facilitate the transfer of resources from consumption to investment without the necessity of bank credit expansion.⁸ But if government expenditures are independent of tax receipts, any saving which merely replaces taxes will be matched by an increase in the government's demand for loanable funds. The needs of government and business to borrow from the banks will be undiminished, and the ability of the banks to meet these demands will be enhanced.

Therefore, if the plan is to realize its objectives, it must result in substitution of saving for consumption as well as for taxes. In evaluating the effects of the proposal on consumption, a temporary privilege of deducting saving must be distinguished from the permanent in-

from taxation. This implies $R = R(Y - bY + bC + bR)$. That is, R depends implicitly on income Y and consumption C . If $b = 1$ —all saving is freed from taxation— R depends only on C and the income tax is converted completely into an expenditures tax. The function $R(Y)$ is, under a progressive rate structure, a connected series of line segments of increasing slope. For taxable income in a range $Y_{n-1} < Y < Y_n$, the marginal tax rate $R'(Y)$ is a constant, r_n . Suppose that $R'(Y - bY + bC + bR) = r_n$. Then the marginal tax rate with respect to income is $(r_n - r_nb)/(1 - r_nb)$. The marginal tax rate with respect to consumption is $r_nb/(1 - r_nb)$.

The two plans differ in their treatment of dissaving. Under the Slichter proposal, dissavers would not be penalized; whatever their consumption, their tax would depend only on their income. Under a spending tax, dissavers, like everybody else, would pay taxes based on their consumption, regardless of their income.

⁷ W. A. Wallis, "How to Ration Consumers' Goods and Control Their Prices," *Am. Econ. Rev.* Vol. XXXII, No. 3, Pt. 1 (Sept., 1942), pp. 501-12. Milton Friedman, "The Spendings Tax as a Wartime Fiscal Measure," *Am. Econ. Rev.*, Vol. XXXIII, No. 1, Pt. 1, (Mar., 1943), pp. 50-62.

⁸ "Tax Formula," *loc. cit.*

corporation of this feature in the tax system. The plan has a better chance of reducing the propensity to consume out of income before taxes if it is regarded as temporary than if, as its proponents advocate, it is expected to be permanent. A principal motive for saving is provision for future consumption. The force of this motive is weakened if future consumption spending is expected to be taxed at the same rate as current consumption.

Even if the measure is understood to be temporary, its effectiveness is doubtful; consumer demand corresponding to a given level of personal income before taxes may even be increased. The deduction privilege is in effect a lowering of the price of saving in terms of income and consumption. Instead of costing one dollar of consumption, a dollar of saving costs one dollar less the tax deduction attributable to it. (If r is the applicable marginal income tax rate and b is the fraction of saving eligible for deduction from taxable income, the cost of a dollar of saving is $1 - br$ dollars of consumption.) Now lowering the price of saving has both substitution effects and income effects. The substitution effects are unfavorable to consumption. But any taxpayer who would save in the absence of the special incentive is given, under the proposal, an increase in disposable income equal to the tax on the deductible part of his normal saving. The increase in disposable income is favorable to consumption. There is no *a priori* way to decide whether the substitution effects or the income effects will predominate. But a measure which has income effects favorable to consumption is a weak method of fighting inflation.

Moreover, there are two features of the plan which limit its restrictive effects on consumption. First, the deduction privilege does not alter the price of dissaving. To qualify for tax relief, dissavers would have to cease dissaving and start saving. Short of a drastic revision of their budgets, the plan gives dissavers no incentive to reduce their consumption. Nor does it force them to consume less by imposing on them higher taxes. The plan could touch dissavers only by including a penalty for dissaving at the same rate as the bonus for saving. A penalty provision probably would not be acceptable on social and political grounds.

Second, due to the progressive structure of tax rates, the more a taxpayer saves the less he can gain by reducing his consumption further. His saving is excluded from the taxable income on which his marginal tax rate depends. Enough saving can move him to a bracket with a lower marginal tax rate. A taxpayer who would save in the absence of the plan gets a boost in his disposable income based on the marginal tax rate applicable to his taxable income before deduction of saving. His normal saving may be sufficient to move him to a lower

tax bracket. When he considers whether to increase his saving at the expense of his consumption, his calculations are made at a lower marginal tax rate, *i.e.*, a higher cost of saving. Consider, for example, a lowest-bracket taxpayer whose deduction for normal saving lowers his taxable income beyond the reach of the income tax. The deduction privilege gives him an increase in disposable income, some of which he may devote to increased consumption, but it offers him no incentive to substitute saving for consumption.

The difficulties due to varying marginal tax rates could be largely avoided by computing the tax deduction for saving in a different manner from the deductions now allowed. Instead of a deduction from taxable income, the privilege could take the form of a credit against tax liability computed by applying a uniform rate to the taxpayer's saving. Except for taxpayers with sufficient saving to reduce their tax liability to zero, the cost of saving to an individual would be independent of the amount of his saving.

The reduction in the price of saving in terms of income and consumption accomplished by the proposed tax revision is analogous to a general rise in interest rates. Both the deduction privilege and an increase in interest rates enable a saver to have larger funds at his disposal in the future for the same sacrifice of current consumption. Both increase the amount of future consumption which can be obtained with a given current income. Economic opinion has been uncertain and divided concerning the effects of interest rate changes on consumption and saving. Empirical evidence is inconclusive, and the current fashion is to attribute to interest rates little or no influence on the disposition of income. It is true that the tax proposal can accomplish much bigger changes in the price of saving than the usual range of variation of interest rates. On the other hand, a rise in interest rates does not suffer from the special features of the tax device which limit its effectiveness in inducing substitution of saving for consumption.

It is by no means certain, therefore, that the Slichter plan would restrict consumption spending even if it were regarded as temporary. The proposal has even less chance of achieving its anti-inflationary objective if it is expected to be permanent. This expectation will in no way weaken the income effects of the tax deduction privilege, which are favorable to consumption. But it will substantially weaken the substitution effects. Consider a taxpayer whose expectations of income and tax rates place him in the same marginal tax rate bracket in the future as today. Suppose that, in the absence of tax incentives, he plans to save in future years about the same amount he is currently saving, nearly enough so that deduction of saving from taxable income would not put him in a different tax bracket in the future. A temporary

exemption of saving from taxation might induce him to shift to the present some of the saving he had planned to do in the future and to postpone consumption. He would thereby avoid permanently tax payments on the increase in his current saving. But if the exemption of saving from taxation is permanent, the taxes are not avoided but only postponed. If the taxpayer shifts consumption from today until tomorrow, he adds to his future tax liability exactly what he deducts from his taxes today. Indeed, due to the progressive tax rate structure, he may add more to his future tax liability than he gains from tax exemption in the present. An increase in future consumption might carry the taxpayer into a higher tax bracket, because he would have less saving to deduct from future taxable income. Or a decrease in present consumption might take him into a bracket with a lower marginal tax rate.

For some taxpayers, whose income prospects and consumption and saving plans are not uniform over time, permanent exemption of saving from taxation could lead to a reshuffling of consumption and saving plans. But this reshuffling can work both ways; present consumption can be increased as easily as reduced. If a taxpayer expects to face different marginal tax rates in different years, the scheme gives him an incentive to shift his consumption to years when he expects to be in low tax brackets. Similarly the absence of a penalty for dissaving may lead to concentration of consumption spending in years when dissaving is planned anyway. For example, a taxpayer who anticipates dissaving when he retires will not increase his taxes in the years of retirement by planning to consume more at that time. He will receive current tax benefits by reducing his present consumption; consequently, for him the plan reduces the cost of future consumption in terms of present consumption. On the other hand, an individual who is currently dissaving in anticipation of higher future incomes which will permit him to save adds nothing to his current taxes and reduces his future taxes by dissaving more now and planning to save correspondingly more in the future.

A by-product of the scheme, whether adopted temporarily or permanently, would be to change regressively the size distributions of disposable income, wealth, and possibly consumption. Big savers in the high-income groups would receive increases in disposable income, while low-income families with zero or negative saving would not. To the extent that the high-income groups save their gains, inequality of wealth is promoted. If the beneficiaries increase their consumption, even the distribution of consumers' goods is altered against the low-consumption groups who receive no advantage from the tax reduction. The regressive features of the plan would diminish its political appeal,

one of the principal advantages claimed for the proposal, and might well increase inflationary pressure due to wage demands. Regressive effects could be lessened by placing a ceiling on the allowable deduction of saving or by varying the fraction of saving eligible for deduction inversely with the amount of saving claimed. But these provisions would also diminish, in the same manner as the progressive structure of tax rates, the incentive for substituting saving for consumption.

By a more fundamental revision, the Slichter proposal can be made both more effective against inflation and less regressive. Tax rebates would be allowed not for all saving but only for additions to the taxpayer's normal saving. This revision eliminates the perverse income effects; tax relief would be obtainable only by curtailing consumption. The economic meaning of "normal saving" is the amount the taxpayer would save given his income before taxes and given the tax law without the rebate provision. No legal formula can do more than approximate the economic meaning. A possible approximation would be a schedule of normal saving for tax purposes, determined by the government. Based on family budget data, the schedule would relate normal saving to income, number of dependents, and perhaps to other factors. The taxpayer could claim deduction only for saving in excess of the figure in the schedule applicable to him.

Such a schedule—or any other legal formula for normal saving, such as the taxpayer's saving in some previous year—is bound to overstate the normal saving of some and understate that of others. These inevitable errors reduce the anti-inflationary effectiveness of the plan. Taxpayers whose normal saving is understated will receive a windfall, with income effects favorable to consumption. Taxpayers whose normal saving is significantly overstated are unlikely to change the disposition of their incomes. Like the dissavers considered above in the analysis of the original proposal, they must take an unrewarded cut in consumption before they can begin to claim tax rebates for further cuts. The plan could be made certain to affect all taxpayers by including a penalty tax for under-saving as well as a tax deduction for over-saving.

To summarize, tax rebates for all saving are not a reliable method of restricting consumer demand and stopping inflation. They are especially ineffective if they are expected to be a permanent feature of the tax system. A temporary plan to exempt saving from taxation can be strengthened by confining the exemption to saving in excess of some normal amount. It can be further strengthened by penalizing taxpayers who save less than normal amounts as well as rewarding those who save more. Even with these amendments, the proposal requires for its success a high degree of substitutability between present

and future consumption. And the amendments spoil the spectacular, if illusory, political appeal of a proposal which promises to stop inflation by reducing taxes.

The quest for anti-inflationary medicine which is both effective and palatable is, nevertheless, an important one. What means of restricting the consumption of a taxpayer to a given level will deprive him of the least satisfaction? This question is surely relevant to an appraisal of anti-inflationary tax measures, even though it is not to be expected that the constituents of political appeal can be discovered in the economic theory of consumer preference.

An answer to the question requires assumptions concerning the taxpayer's preferences. The following assumptions are made: (1) Given his level of current consumption, the taxpayer prefers more future purchasing power to less; (2) Given the terms of exchange of present consumption for future purchasing power, the taxpayer will both consume more and save more the higher his current disposable income; (3) To leave the taxpayer at a given level of satisfaction, it is necessary to provide him with increasing amounts of future purchasing power for every additional dollar of current consumption of which he is deprived.

We exclude from consideration measures which would involve a net gift by the Treasury to the taxpayer, either in cash or in government obligations.

Clearly the best way of restricting consumption to a given level, from the taxpayer's standpoint, is the one which leaves him the most saving to go along with that consumption. Also, the taxpayer will be better satisfied with this solution the greater the future value of the saving. Consequently, he will prefer a temporary measure, which will not restrict or tax his future disposition of the saving, to a permanent measure.

By this standard, a temporary expenditures tax—which amounts to the same thing as an income tax with saving exempted—is superior to an income tax. If each is levied at the rate necessary to induce the taxpayer to restrict his consumption to a given amount, the expenditures tax will leave him with more saving. This follows from the fact that the expenditures tax can take advantage of whatever substitutability there is between present and future consumption, while the income tax must rely wholly on income effects. In Figure 1, saving is measured on the vertical axis, and consumption on the horizontal axis. I_1 , I_2 , I_3 are indifference curves embodying the assumptions stated above concerning consumer preferences. Curve X is the locus of points of tangency of indifference curves with line of slope -1 . Y on each axis represents the consumer's income before either of the taxes under con-

sideration. Point A shows the consumption and saving chosen by the consumer. C is the level of consumption to which he is to be restricted. An income tax would accomplish this restriction by moving him to point B, where a line parallel to YDAY would be tangent to an indifference curve. An expenditures tax will be represented by a line which starts on the saving axis at Y and has a steeper slope than YDAY. The slope will be steeper the bigger the tax. (A progressive expenditures tax would be shown by a broken line convex upwards.) The expenditures tax which will induce the taxpayer to consume only C will be shown by a line tangent to some indifference curve at a point directly above C. Now the indifference curve through D has a slope at D steeper than -1 , while the indifference curve through B has a slope at B equal to -1 . The expenditures tax line through B has a slope steeper than -1 , while the line through D has a slope equal to -1 . Therefore there is a point K, between B and D, where an expenditures tax line YKE touches an indifference curve I_2 . Thus an expenditures tax leaves the taxpayer better off than an equally effective income tax.

Neither of these measures, however, is as satisfactory to the taxpayer as a suitably designed compulsory savings levy. The major weakness of an ordinary compulsory savings plan is that the assets which consumers are forced to acquire are good substitutes for assets which they already own or would voluntarily acquire. Consequently, consumers damage their financial position very little by maintaining their consumption and reducing their voluntary saving or, if necessary, dissaving. This weakness can be avoided by a levy in return for which government obligations are issued only if the taxpayer's saving meets a specified standard. If the taxpayer cannot show the required amount of voluntary saving, the levy on him is simply an income tax.

A compulsory savings scheme with teeth can limit the taxpayer's consumption and give him the rest of his income in saving. This can be accomplished, for example, by levying a tax equal to CY in Figure 1 and by giving the taxpayer government bonds equal to the tax provided his dissaving during the year is zero. The line showing the alternatives open to the taxpayer is YDCH, and the best choice he can make is point D. Here he is better off than under an expenditures tax or income tax which holds him to the same consumption. On our assumptions, which imply some substitutability between present and future consumption, the same result can be achieved by a smaller levy (FY). In this case eligibility to receive government bonds would require positive saving equal to CF, the difference between income after the tax and the given consumption level. The alternatives open to the taxpayer lie along the line YDGJ. The tax must be large enough so that the line GF lies below I_2 , the indifference curve through D. The important

feature of compulsory savings schemes of this type is to give the taxpayer no intermediate choice; either he keeps his consumption down and commutes his tax payments into bond purchases or he fails to save the required amount and pays the tax in full without recompense.

In practice a compulsory savings levy of this kind would not supersede the existing income tax but would be added to it when an inflationary situation warranted. Complete conversion of the income tax into a compulsory savings scheme would change regressively the distribution of income after taxes and of wealth. It would also provide the public

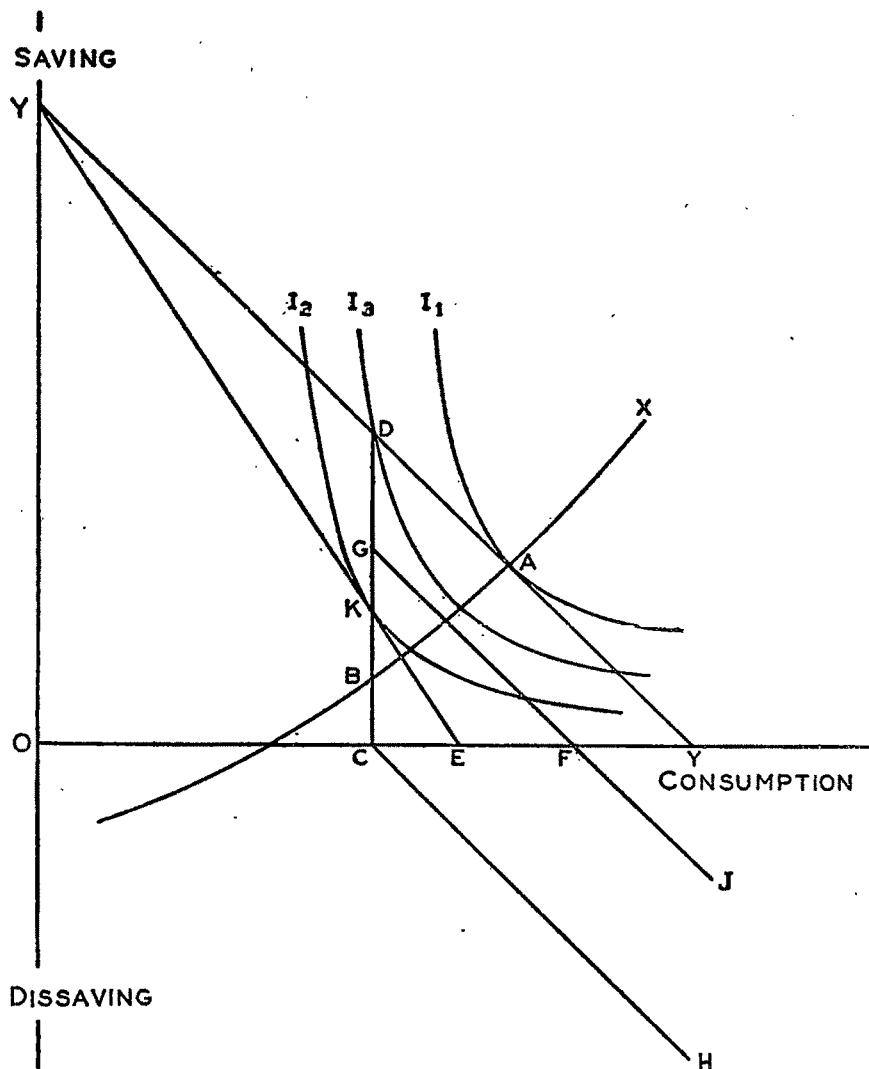


FIGURE 1

with an accumulation of assets which might prolong inflationary danger.

For the purposes of this plan the government would have to determine a schedule of the voluntary saving which taxpayers must perform in order to be eligible to receive government bonds in return for their tax payments. Together with the schedule of tax rates, this schedule would determine the levels of consumption to which the program would seek to hold taxpayers. The schedule should, therefore, be based not only on income but on number of dependents.

Administration and enforcement of a compulsory savings levy with teeth, or of an expenditures tax, or of rebates for saving would be complicated by the requirement that the taxpayer declare and be able to prove the amount of his saving.⁹ The taxpayer would have to show such data as net purchases or sales of securities, changes in bank deposits, changes in indebtedness, changes in cash value of insurance policies. For the anti-inflationary purposes of these schemes, "saving" would have to exclude purchases of houses and other durable goods. Care would be required to prevent taxpayers from claiming capital gains, realized or unrealized, as saving. Administration of any of these plans would be difficult both for the tax collector and the taxpayer, but the information demanded and the problem of checking its accuracy are not basically different from the requirements of existing tax legislation.

⁹ This subject can only be mentioned here. For an optimistic view of the administrative feasibility of such a requirement, see K. E. Poole, "Problems of Administration and Equity under a Spending Tax," *Am. Econ. Rev.*, Vol. XXXIII, No. 1, Pt. 1 (Mar., 1943), pp. 63-73. For the opposite view, see H. H. Villard, "Monetary Theory," *A Survey of Contemporary Economics* (Philadelphia, 1948), p. 343.

DISCRIMINATION IN INTERNATIONAL TRADE

By FRANKLYN D. HOLZMAN*

I. *Introduction*

Economists concerned with international trade problems have been divided as to the advisability of the use of discrimination in the administration of quantitative restrictions¹ in the present period, a period in which the structure of trade is disrupted, partly because of the destruction which accompanied World War II and partly reflecting tendencies which had their roots in earlier periods. The discussions of discrimination which took place at the London, Geneva, and Havana meetings of the International Trade Organization apparently reflected this division of opinion.² The hostility of many economists toward discrimination undoubtedly stems from experiences of the 1930's when it was used by Germany, for example, to exploit the nations in its economic sphere. In addition, American economists can hardly fail to be influenced in their thinking by the fact that at present U. S. commercial interests constitute one of the principal targets of discrimination. On the other hand, many economists, particularly those from Western Europe, feel that the outlawing of discrimination would lower the level of, and benefits from, trade unnecessarily for many years to come.

The Havana Charter reflects a compromise between these views—what might be considered a grudging sanction of the use of discrimination by those nations having balance of payments difficulties. It is provided that members of the ITO may introduce discrimination under either of two sets of conditions:

1. They may choose to discriminate “. . . in a manner having equivalent effect to restrictions on payments and transfers for current international transactions which that Member may at that time apply

*The author is a graduate student fellow, Russian Research Center, Harvard University. In the writing of this paper, he acknowledges benefit from the critical comments of Mrs. Barbara Solow and Mr. Robert Lichtenberg.

¹ Hereafter to be designated discrimination in distinction to simple price discrimination which will be so labelled whenever it is used.

² Clair Wilcox, *A Charter for World Trade* (New York, 1949), p. 90: “The negotiations through which these provisions were fashioned were among the most protracted and most bitterly contested at each of the conferences. Latitude for discrimination during the transition period was sought by the UK and by France. Rules to circumscribe discrimination were urged by the United States.”

under Article XIV of the Articles of Agreement of the International Monetary Fund. . . .³ In other words, discrimination is allowed to the extent to which members of the IMF would be discriminating already. It would have been difficult for the ITO to have ruled otherwise with respect to Fund members. Article XIV of the Fund appears to allow a fairly wide latitude for discrimination during the transition period.

2. Alternatively, members who signed the Geneva Protocol may elect to be governed by Annex K which allows discrimination subject to the following, among other, limitations:

1 (a) (i) levels of delivered prices for products so imported are not established substantially higher than those ruling for comparable goods regularly available from other Member countries . . . and that

1 (a) (iii) such action does not cause unnecessary damage to the commercial or economic interests of any other Member. . . .⁴

In view of the severity of the present trade crisis⁵ some economists may consider these criteria somewhat too restrictive of the right to discriminate. Their reasoning will become apparent in light of the discussion which follows.

The Anglo-American Financial Agreement takes a much firmer position toward discrimination, outlawing its use, with minor exceptions in U.S.-U.K. trade.⁶

It should also be noted that although a nation may discriminate under the Charter while in balance of payments difficulties, "balance of payments difficulties" is not an independent variable but is a function

³ Article 2 (Exceptions to the Rule of Non-Discrimination), *Havana Charter For an International Trade Organization*, March, 1948. See Section 1 (b), p. 59. Dept. of State reprint, pub. no. 3206, Commercial Pol. Ser. 114.

⁴ *Ibid.*, pp. 60, 127.

⁵ Particularly when these provisions were being discussed.

⁶ Section 9 states: "If either the Government of the United States or the Government of the United Kingdom imposes or maintains quantitative import restrictions, such restrictions shall be administered on a basis which does not discriminate against imports from the other country in respect of any product; provided that this undertaking shall not apply in cases in which (a) its application would have the effect of preventing the country imposing such restrictions from utilizing . . . inconvertible currencies accumulated up to December 31, 1946, or (b) there may be special necessity for the country imposing such restrictions to assist, by measures not involving a substantial departure from the general rule of non-discrimination, a country whose economy has been disrupted by war, or (c) either government imposes quantitative restrictions having equivalent effect to any exchange restrictions which that government is authorized to impose in conformity with Article VII of the . . . International Monetary Fund. . . ." The exceptions do not appear very substantial: the first may have been of short-run value but it is doubtful that it remained operative beyond, say, 1948; the second appears designed to aid, not the discriminator, but third countries—and then only those which suffered war disruption, thereby excluding, for example, most of the sterling area; the third, by the nature of Article VII (the "scarce currency" clause), is likely to operate with considerable lag and, in fact, up to the present time has not been invoked in spite of the severity of the dollar problem.

of a number of alternative policies which may be pursued. In fact, much of the future battle over discrimination may well be fought over other issues such as exchange rate devaluation, internal fiscal and monetary reform, or the use of other "blunt" controls in place of discrimination. It clearly would be inconsistent to argue for devaluation or some other measure or combination of measures as a *complete* solution to present balance of payments difficulties and at the same time also support discrimination in the present period.

Few would deny that discrimination might be undesirable under "normal" conditions of trade.⁷ However, in view of the disagreement as to the desirability of its use under conditions of the postwar transition period, it would appear useful to spell out some of the issues involved. An attempt will be made to define discrimination in a meaningful manner with respect to current problems, indicate some of its underlying assumptions, and the consequences of its application under different sets of conditions.

II. *Characteristics of Non-Discrimination*

Non-discrimination is characterized by the following:

1. "No prohibition or restrictions shall be applied by any Member on the importation of any product of any other Member *or* on the exportation of any product destined for any other Member country, unless the importation of the like product of all third countries *or* the exportation of the like product to all third countries is similarly prohibited or restricted. . . ."⁸ In other words, all restrictions on imports or exports are to be applied proportionally to all nations concerned.⁹

2. Imports and exports apparently are treated separately by the ITO.¹⁰ The Anglo-American Financial Agreement is concerned only with import restrictions.¹¹ The implication of this is that both imports and exports must necessarily be considered with respect to exchange for currency. In other words, the concept of non-discrimination apparently is based on price¹² and is not concerned with commodity terms of trade.

⁷ Abstracting from dynamic considerations such as development of backward areas.

⁸ *Havana Charter, op. cit.*, Article 22, Section 1, p. 57. The italicizing of *or* is my own to emphasize characteristic 2 below.

⁹ See for example A. O. Hirschman, "Disinflation, Discrimination, and the Dollar Shortage," *Am. Econ. Rev.*, Vol. XXXVIII, No. 5 (Dec., 1948), pp. 886-91. He gives an example of how non-discrimination would work: ". . . Britain restricts purchases of books from Australia and of tobacco from Kenya . . . because the dollar shortage forces it to limit book and tobacco import from the U.S. . . ."

¹⁰ *Havana Charter, op. cit.*, Article 22, Section 1, p. 57.

¹¹ See footnote 7 above.

¹² The term "price" is used here, and will be used in the remainder of this paper, to include all commercial considerations such as quality, transportation cost, etc.

3. In practice a nation accused of discriminating could clear itself by proving that it is purchasing in the lowest price market (or selling in the highest price market).¹³

Two aspects of discrimination deserve special mention.

First, it is not a purely quantitative restriction, but as indicated above, is defined with respect to price.

Second, partly as a result of this fact, there is a tendency to assume that discrimination in international trade is identical with domestic price discrimination. This viewpoint results in a blurring together of two quite different types of discrimination in international trade which we shall designate for the present: Type 1 and Type 2.

It will be recalled that the traditional monopolist (monopsonist) discriminating with respect to price, would separate his markets according to their elasticities of demand (supply), selling as dearly (buying as cheaply) as possible. Let us compare this operation with the two types of discrimination.

Type 1: Let A place quantitative restrictions on imports from B, but not from C. According to our definition, A importers would be paying a higher price for imports from C than the same commodity would cost in B (or they would not be discriminating). It could be argued that by placing quantitative restrictions on imports from B, but not from C, A is providing the separation of markets necessary to allow C exporters to price discriminate against its own importers. Type 1 discrimination is seen to be the inverse of traditional price discrimination.

Type 2: Although the application of the concept is clearly stated in terms of price, and consideration of export and import discrimination are handled separately, it may still be reasoned that commodity terms of trade are implied. It might be claimed that A has forced its importers to purchase at a higher than competitive price from C as part of a bargaining process designed to obtain a more than compensating premium on its exports to C.¹⁴ This is the mechanism usually associated with the sort of bilateralism practiced by Germany in the 1930's. This operation is not identical with traditional price discrimination since it involves both imports and exports. Nevertheless, A is the analogue, in real terms, of the price discriminator.¹⁵

It will soon be apparent that the distinction between the two types of discrimination is a fundamental one.

¹³ See, for example, Annex K, Section 1 (a) i quoted above.

¹⁴ Or perhaps other economic, military, or political advantages.

¹⁵ The relationship between A and C is perhaps better described as a bilateral monopoly in which one party (A) is stronger than the other (C).

III. *Rationale of Non-Discrimination*

Let us examine the conditions under which a policy of non-discrimination would be economically desirable.

Let us assume that the international market is characterized by flexible prices and exchange rates, convertibility of currencies, national parameters (*e.g.*, income, marginal propensity to consume, marginal propensity to import, etc.) of magnitudes such that trade is in balance, and generally competitive conditions. It is well known that under these conditions each nation will be "... somewhere on the Edgeworthian contract curve. . . ."¹⁶ These points represent optimum efficiency in the sense that no further gains are possible to one nation which would not be at the expense of another.

Let us suppose that for economic, military, or political reasons, discriminatory quantitative restrictions have been imposed by a nation to prevent its traders from dealing equally freely in all markets. The immediate consequence would be a movement off the contract line for several of the nations. If these restrictions remained in force sufficiently long, a reallocation of the resources serving international trade might occur which (considered statically) could be considered less efficient than the distribution which existed when all nations were on the contract line. It can be argued that prompt enforcement of a policy of non-discrimination would tend to restore trade to its *original* "efficient" pattern. This is undoubtedly part of the economic rationale behind the non-discrimination clauses of the ITO, the Anglo-American Financial Agreement, and behind the reasoning of other economists of this school.

It should be noted that discrimination in this case would be Type 2 described above. A nation would not force its importers, under the conditions assumed, to purchase at a higher price than necessary unless compensating advantages on the export side were expected

If we had started with simple monopoly, instead of competition, as our original pattern, equilibrium would not have been represented by a point on the contract curve. This position would therefore be considered "inefficient" since the satisfaction level of either party could be raised without detriment to the other. Nevertheless, the monopolist would be better off than under competition; and of course the other party worse off.

If the monopolist should decide to discriminate, there would be a tendency for equilibrium to be moved to a point nearer the contract line than under simple monopoly, falling on it in the case of perfect discrimination. The position of the monopolist would be improved again

¹⁶ P. A. Samuelson, "Welfare Economics and International Trade," *Am. Econ. Rev.*, Vol. XXVIII, No. 2 (June, 1938), p. 265.

whereas the other party would be placed on a still lower satisfaction level.¹⁷

Since equilibrium under perfect-monopolistic discrimination and perfect competition are both represented by points on the contract line and therefore are both "efficient," competition would appear preferable to perfect discrimination principally from the point of view of "distributive justice." Since simple monopoly is "inefficient," "distributive justice" must also be the criterion of those who prefer it to discriminating monopoly. "Distributive justice," therefore, would appear to be a second facet of the rationale of non-discrimination in international trade. Because of the impossibility of interpersonal welfare comparisons (in this case international comparisons),¹⁸ economic science has had nothing to say on this matter in spite of its great importance.¹⁹

Discrimination is frequently objected to on the ground that it leads to bilateralization of trade, hence to a reduction in the benefits from trade due to loss of specialization. This will be true, as is well known, to the extent that the demand (supply) curves facing the discriminator are inelastic. Obviously if the demand for the discriminator's exports should be elastic in the markets in which he chooses to sell, competitors selling the same commodities or substitutes could cut in on his business.²⁰ In this respect the discriminator in international trade is limited to the same extent as the domestic price discriminator.

It is interesting to note that given the same degree of inelasticity domestically and internationally, the setting in which international discrimination is practiced differs from domestic discrimination in an important respect which serves to make bilateralism a *noticeable* concomitant of the former but not of the latter. International discrimination, particularly when state-inspired as is often the case today, usually involves a large number of commodities in each market—in comparison with domestic discrimination. On the assumption that the imports of any country have a limited expansibility, it follows that the value of the commodities sold to a nation on a discriminatory basis may be a relatively large percentage of its total imports. In extreme cases this may actually involve a cessation of trade between the country trading with the discriminator and some third nations. Since accounts in international trade are kept on a country-by-country basis this fact, *i.e.*,

¹⁷ Under perfect discrimination, the second party would be at the lowest possible satisfaction level at which exchange could take place.

¹⁸ The writer is aware of the theoretical shortcomings of community indifference lines.

¹⁹ For an excellent graphic and verbal presentation of the competition-monopoly-discriminating-monopoly problem, see: W. Leontief, "The Pure Theory of the Guaranteed Annual Wage Contract," *Jour. Pol. Econ.*, Vol. LIV, No. 1 (Feb., 1946), pp. 76-79.

²⁰ Abstracting from the various economic and political devices used by discriminators to reinforce their positions.

bilateralization, becomes statistically recognizable. Although the same phenomenon exists domestically, it occurs on a relatively small scale and is not easily defined statistically.

Clearly, maintenance of the highest possible degree of specialization is a third aspect of the rationale of non-discrimination under the assumed conditions.

It should be noted that the preceding analysis is based on an assumption of constant output. It has been demonstrated, however, that under certain conditions output may be increased by discrimination.²¹ If output should be increased sufficiently by discrimination, it is possible that everyone's position might be improved. To the extent that this should happen, the case for non-discrimination would be weakened.

IV. *Rationale of Discrimination*

Let us change some of our assumptions and examine the results. Specifically we will assume relatively fixed exchange rates and/or inflexible prices, national parameters such that trade is unbalanced, and inconvertibility of some currencies (largely as result of the preceding assumptions). These assumptions are not unreal under present conditions of world trade.

Under the conditions assumed, a soft currency nation may no longer allow its traders to buy or sell indiscriminately with regard to country (or currency) but must insure that certain of its international monetary accounts balance bilaterally (abstracting from capital movements). Let us suppose A has a deficit on current account with B and a surplus with C, and that B will not accept C's currency in settlement of its account with A. Let us furthermore suppose that A is buying identical commodities from B and C and that B's price is lower than C's. When A has exhausted its stock of B currency, it may impose quantitative restrictions on imports from B in order to achieve bilateral balance. These restrictions are discriminating within the ITO definition of the term. *But—it should be noted that this is Type 1 discrimination.* There is no necessary presumption in this case that A is paying more for its imports from C in the expectation of compensation in the form of a higher price for its exports to C, military or political gains, etc. A may be buying from C only because it no longer has the currency with which to purchase from B. *Type 1 discrimination is seen to be of*

²¹ Joan Robinson, *Economics of Imperfect Competition* (London, 1945). In her section on price discrimination, Mrs. Robinson demonstrates that if a monopolist is faced with separate markets of different demand elasticities, and if the more elastic demand curve is more concave than the less elastic demand curve, ". . . the total output will be greater under discrimination than under simple monopoly . . ." (p. 193). Her analysis also indicates ". . . that on the whole it is more likely that the introduction of price discrimination will increase output than that it will reduce it . . ." (p. 201).

an "induced" nature in distinction to Type 2 which is practiced at the initiative of the discriminator and may be designated "autonomous" discrimination.

The principal importance of the distinction between induced and autonomous discrimination resides in the fact that whereas with the former, disequilibrium in trade precedes and is the cause of discrimination, with the latter, discrimination is not a result of disequilibrium but is used deliberately by the nation discriminating to better its terms of trade or obtain other concessions at the expense of other nations. It was demonstrated above that enforcement of a policy of non-discrimination would make it possible to prevent an autonomous discriminator from separating his markets and thereby tend to restore trade to its original pattern. Application of this policy, however, to induced discrimination would not have the same therapeutic effect. It is well known that under the conditions assumed the induced discriminator could not return to the same level and distribution of trade which existed prior to discrimination. If balance of payments equilibrium could not be achieved by discrimination, downward adjustment of trade on a multilateral scale would become necessary. This would serve to reduce the benefits from trade to the discriminator and to all other nations with whom it might have enjoyed a higher level of bilateral trade by discriminating—and without benefit (at least in the short run) to the country discriminated against. It does not seem necessary to more than state that the losses from the reduced level of trade would be sufficiently large in most instances to transcend considerations of distributive justice and of the specialization effect.²²

²² As was indicated in the introduction, one of the principal purposes of this paper is to clarify the rationale of the use of discrimination in the transition period, particularly since the American delegations to the ITO and the framers of the Anglo-American Financial Agreement appear to have favored non-discrimination even under the conditions of transition.

The analysis would appear to be even more significant, however, in view of the fact that many economists feel that inconvertibility is a function solely of relative prices and can, therefore, be quite simply eliminated by "effective" devaluation. (See for example: F. Graham, "The Cause and Cure of 'Dollar Shortage,'" *Essays in International Finance* [Princeton, 1948], p. 5.) If this were true, the case for induced discrimination in the present period would be refuted and discounts and premiums on currencies would be eliminated quite simply.

The elimination of inconvertibility, however, appears to be a much more complicated task, in some instances, than is generally assumed. For example, sterling inconvertibility is a function not only of (1) international price disequilibrium, but also of (2) the huge external sterling debt built up during the war, a sufficient proportion of which cannot be discharged quickly enough out of current production, (3) the shift in terms of trade between industrial and agricultural areas, (4) the increased marginal propensity to import resulting from the redistribution of income toward the poorer classes in the U.K., (5) and others. Achievement of immediate sterling convertibility would probably involve the U.K. in reduced home consumption and/or reduced domestic investment and/or repudiation of at least some portion of the external sterling debt. The consequences for the U.K. in terms of

It must be recognized that to defend a policy of non-discrimination with respect to induced discrimination at present or in the near future, especially in view of the immediate loss it would entail from a lower level of trade, it would be necessary to defend the particular distribution of trade which the policy tends to preserve, *i.e.*, the distribution of trade in some "... previous representative period, due account being taken of any special factors which may have affected or may be affecting the trade in the product. . . ." ²³ This would indeed be difficult to do. The distribution of trade in the postwar period has been very abnormal because of war destruction and because of the large drawing down of liquid reserves by many nations and the extraordinary capital outflow from the United States in the forms of UNRRA, Marshall Plan and military lend-lease aid. For obvious reasons the wartime period is unfit to serve as a base period. The extraordinary structural changes which have been (still are) taking place since the interwar period ²⁴ make it unwise to go back this far. In other words, there is actually no "representative period" upon which to base a policy of non-discrimination. This substantially vitiates the use of such a policy until the time when the current maladjustments in trade have disappeared. ²⁵

the morale and incentive to work of its population, future ability to compete in world markets, domestic cost-price stability, and commercial relationships with its war creditors might be serious enough to endanger its recovery program. The alternative might be to tolerate inconvertibility until such time (perhaps 5-10 years) as productivity has risen, repressed inflation has subsided, agricultural prices have declined relatively to industrial prices, and other internal adjustments have occurred which would make the transition to convertibility less fraught with danger. This latter alternative would not necessarily preclude devaluation sufficient to bring British export prices into line with world prices (this would probably not be sufficient to close the deficit on current dollar account, however) although the advisability of such a devaluation at this time is still a controversial matter.

For discussion of structural disequilibrium see: J. J. Polak, "Exchange Depreciation and International Monetary Stability," *Rev. Econ. Stat.* Vol. XXIX, No. 3 (Aug., 1947), pp. 173-82; P. A. Samuelson "Disparity in Postwar Exchange Rates, *Foreign Economic Policy for the United States*, edited by S. Harris (Cambridge, 1948), pp. 399-400.

²³ *Havana Charter, op. cit.*, p. 58.

²⁴ For example: full employment in many countries today in comparison with the depressed conditions of the 1930's, redistribution of income in some nations, development of synthetics, war destruction, etc.

²⁵ It is noted here that the ITO emphasizes the distribution, to the neglect of the level, of trade. Professor Frisch's trade matrix in its *unadjusted* form, goes to the other extreme, as Dr. Polak has indicated. (See his "Balancing International Trade: Comment," *Am. Econ. Rev.*, Vol. XXXVIII, No. 1 [March, 1948], pp. 139-41.) The matrix is essentially a balance sheet of current account relationships of each country with every other—in monetary terms. Apparently the marginal units of trade from all nations are treated as having equal desirability to all other nations ignoring the importance of the distribution of trade. Professor Frisch does state that "... In practice one would have to consider all sorts of special relations that connect the elements in a given trade matrix . . ." ("Forecasting a Multilateral Balance of Payments," *Am. Econ. Rev.*, Vol. XXXVII, No. 4 [Sept., 1947] p. 545). It is possible that such a procedure would meet the objection posed. It should also be noted that nowhere in the article was there any indication that adjustment would be made for

Finally, it should be noted that with currencies not freely convertible, and rigidities in international prices and exchange rates, some currencies will tend to be "harder" than others. Unless exchange rates and/or domestic prices fluctuate freely, a value expressed in international prices will not always be equivalent in all currencies. That is to say, although the real value of currencies in terms of each other (or gold) changes, the legal parities are not allowed to change freely. In this case, a country (or its traders) clearly cannot determine in which direction the most economic purchases can be made on the basis of market price expressed through parity rates. Consideration must also be taken of the current discounts or premiums on the currencies earned or held.

Let us suppose that A forces its importers to buy from C a commodity which is being sold by B at a 10 per cent lower price. Under the ITO definition of discrimination it could be claimed that A is discriminating against B. However, if C's currency exchanges at a 25 per cent discount with respect to its par value with B's currency, it is clear that A is not discriminating. Actually, the cost in currency of B's product is 20 per cent higher than C's; and, of course, cost in currency is the relevant measure under the assumed conditions. Any evaluation of discrimination should take this factor into account.

V. Conclusions

The following conclusions are suggested by the preceding analysis:

1. Autonomous discrimination may occur under conditions otherwise appropriate to multilateral trade. It is undesirable because it reduces the specialization effect and involves what may be considered an "unfair" distribution of the gains from trade. Enforcement of non-discrimination was seen to provide an adequate corrective. For these reasons it may be argued that a policy of non-discrimination should be enforced with respect to nations guilty of autonomous discrimination.²⁶
2. This reasoning was shown to be inapplicable to induced discrimination because of the different set of conditions under which it occurs. Consequently, the ITO's general position of allowing discrimination in

discounts on currencies. (See next paragraph in text.) Other criticisms of the method have been published (see Dr. Polak's article above; also: G. M. Meier, "The Trade Matrix: Comment," *Am. Econ. Rev.*, Vol. XXXVIII, No. 4 [Sept., 1948], pp. 624-25).

However, in spite of its defects, Professor Frisch's work is very significant in that it attempts to answer the question: how to discriminate? and thereby facilitate progress in the recovery. The ITO, on the other hand, has made no contribution to this important problem of the transition period. Rather it has devoted its efforts to setting up rules for the post-transition period apparently on the assumption that transition problems will take care of themselves.

²⁶ Abstracting from certain dynamic considerations.

the use of quantitative restrictions during the transition period was shown to be justifiable on economic grounds. The limitations on discrimination imposed by Annex K of the Havana Charter do not appear to be justifiable by the same logic. If one accepts the reasoning that discrimination in the transition period is "induced" by structural disequilibrium in trade, then it may be contended that the characteristics of the induced discrimination will be determined by the nature of the disequilibrium, and should not be limited by arbitrary "price" and "quantity" criteria.

The exceptions to the non-discrimination clause of the Anglo-American Financial Agreement appear to be insubstantial and the clause, therefore, not defensible on economic grounds.²⁷

3. If a policy of non-discrimination should be enforced during the transition period, it must be recognized that market prices in local currencies, converted at parity, do not provide a valid measure of relative cost. Currency discounts and premiums must also be taken into consideration if the policy is to have any economic significance at all.

4. The ITO has made no attempt to solve the problem of how to discriminate in the transition period. This is a serious gap since the problems of the transition are quantitatively so much more important than those of the post-transition period are likely to be. In addition, there is no guarantee that the present crisis may not continue in some sectors for many years.

Ideally the ITO should undertake, in cooperation with its members, extensive studies as to the optimum levels and distribution of trade to be expected at the end of the transition period. Discriminatory restrictions which are in consonance with, and necessary to the achievement of end-of-transition equilibrium should be allowed. It must be recognized that many nations are presently planning trade to a greater extent than ever before and with long-run ends in view. ITO coordination of the international aspects of this planning would be invaluable.²⁸

²⁷ The events of July-August, 1947, showed the fallacy of the premature resumption of sterling convertibility under the terms of this same Agreement.

²⁸ A study of U.S. imports should have high priority on the list of research projects. The difficulties faced by foreign countries attempting to increase export to the U.S. are great. The U.S. is the most efficient and self-sufficient of nations. About two-thirds of its imports consist of food, and raw and semi-finished materials; half of the remainder, of manufactured consumer goods.

It is likely that imports of the former group can be increased much. Developments such as the invention of synthetic rubber, the improved tin-plating process, mechanization in beet sugar, etc., make it more likely that these imports will tend to decline relative to income. Studies show the U.S. elasticity demand with respect to the price of these commodities is very low.

The difficulties faced by foreign manufacturers trying to increase exports of consumer goods to the U.S. are great. The U.S. domestic industry is an efficient competitor in most existing lines (including close substitutes). Attempts to create new markets are almost

Less than ideally, the ITO might attempt to develop, or support efforts, in the general direction in which Professor Frisch has been working. Any mechanism which is clearly an improvement over current practice of unilateral discrimination should be incorporated into, and enforced by, the ITO.

certain to have to face competition eventually from American emulators. For example, Professor Williams says that American automobile manufacturers have told him that if other nations succeed in establishing a market in the U.S., "... we will go after it. . . ." (J. Williams, "Europe After 1952," *Foreign Affairs*, April, 1949, p. 19). In those fields in which foreigners appear able to compete successfully with domestic firms, the U.S. provides high tariff protection. Foreign firms attempting to crack the American market always face the risk that tariff walls may be raised against them if they are "too successful"—although this risk may be substantially reduced by GATT and the ITO. It must also be remembered that the present allocation of resources to U.S. industries competing with foreign products is based on a long-standing policy of protection and cannot be easily changed.

In addition, American business men are more conversant with American tastes and more skilled than foreigners in the arts of advertising, packaging, styling, etc., for the American public. This raises the costs both of entry and of continued competition for foreign firms. Subsidies by foreign governments designed to overcome such handicaps, even initially, are infeasible since the Tariff Act of 1930 provides for the levying of counter-vailing duties to the full extent of such subsidies.

There is no question but that American goods have a higher utility for foreigners than the exports of any other country. Offsetting this, however, increased exports to the U.S. may be costly in view of: (a) poorer terms of trade which appear unavoidable (b) the costs of investment, advertising, etc., needed for better orientation toward dollar markets, and (c) risk of U.S. recession or higher tariffs and consequent loss of markets.

INTERNATIONAL ASPECTS OF A RECESSION

By ALBERT O. HIRSCHMAN*

The present paper is concerned with the end of the world-wide post-war inflation and with its implications for the "dollar shortage." In its first part, the stability of foreign economies will be examined, with particular reference to those of Western Europe. The second part deals with the probable consequences of a cyclical downturn for international economic equilibrium.

I. The Stability of Foreign Economies

Up to the middle of 1949, signs of a recession are fewer and less conclusive in foreign countries than in the United States. More and more countries, however, are achieving stabilization regardless of whether they have been suffering from the "open" or the "repressed" variety of inflation and also regardless of the kinds and the degree of control under which their economies have been functioning.

Incentives to invest have been particularly strong in all war devastated countries not only because of the large backlogs of consumer demand and the need for re-equipment in capital goods, but because relatively small amounts of investment (repairs of houses, railroads, replacement of damaged or outworn machinery) were sure to yield an exceptionally quick and high return. Once this abnormal demand for investment comes to an end, a rather severe readjustment may be expected. This type of readjustment did take place in 1947-48 in Italy where the completion of the most urgent repairs coincided with restrictionist monetary policies which killed the speculative, inflation-induced type of investment. The other marked instance of a postwar recession is Belgium where war destruction had not been important and where the government followed a policy of giving primary attention to the filling of consumers' needs.

Spotty evidence of slackening consumer buying has been available in most Western European countries over the past months. Investment pressures have eased considerably in Sweden and Switzerland, complaints about lagging investments are common in Germany and Italy, and a number of large-scale reconstruction and re-equipment programs, particularly in the field of transportation (shipbuilding in England,

* The author is an economist with the Board of Governors of the Federal Reserve System. The views expressed in this article are not necessarily those of the Board.

railways in France and Italy, and truck production in Western Europe in general), are nearing completion.

In many countries the public authorities have elaborated investment plans which so far they have had the greatest difficulty in financing without inflation and which, therefore, might be expected to prevent any tendency toward a depression. It is by no means certain, however, that everything will work out in this way. Many European countries have now made a considerable fiscal effort to create the savings necessary to offset the planned investment. But this investment, to a very large extent, is carried out by the private entrepreneur. At some point, it may simply not be forthcoming in the volume expected and then, provision having been made for it by budget surpluses, selectively restrictive bank credit policies, etc., there would be an ideal setting for a deflation. What needs to be pointed out, therefore, is that the present semi-planned economies of Western Europe have by no means achieved a reliable coordination of savings and investment decisions. Of course, in the past inflation-ridden years, investment projects have repeatedly been subjected to cuts which would presumably be restored as demand recedes. But the feeling of security induced by this consideration may well prove to be illusory, for an entrepreneur who very much wanted to undertake an expansion of his plant a year ago may feel quite differently about such a project when the inflation around him has subsided or turned into deflation.

Even nationalized industries cannot be entirely relied upon to undertake investment programs when a recession has started to set in. In the first place, these industries have already invested at a very high rate during the recent inflationary phase, so that all that might be expected from them is the continuation of the present rate. Moreover, the managers of these industries have been told so insistently over the past years that they should use ordinary business judgment and criteria that, at least during the initial phase of a recession, they may well postpone investments when business in general adopts a wait-and-see attitude.

Another uncertainty affecting business activity in European countries is the level of individual savings. The general inflationary climate and the uncertainty about the prospective level of private savings has led, in a number of countries, to an extremely limited reliance on personal savings as an offset to the planned level of investment. All other forms of savings, such as corporate savings and budget surpluses, seem far superior in that they are more enforceable, *i.e.*, they are less forecasts, which may or may not become true, than targets which can consciously be aimed at by economic policy.

Thus, in France the "inflationary gap" was calculated in 1947-48 on the assumption of zero personal savings.¹ In Great Britain, the 1948 estimate of private savings was 220 million pound but this consists, to the extent of 214 million, of direct taxes on capital.² In countries like Norway and the Netherlands the national accounts were actually drawn up on the assumption that there would be a certain amount of net dissaving by private individuals.

It goes without saying that a zero or negative level of personal savings is an anomaly caused by exceptional backlog demands or by inflation. When the backlog demands are filled, when the inflation is stopped and excess liquid holdings have been reduced, a sudden reappearance of private savings on a substantial scale is possible: it is quite likely to take the official planners by surprise.

What policy will or should European countries follow when they are faced, despite planning for full employment, by a recession resulting from over estimates of private investment and underestimates of private savings? As long as inflationary tendencies prevail, the task of the authorities is clear enough, though by no means easy to carry out. The weapons to be used are the familiar ones of restrictive fiscal and monetary policy, supplemented if necessary or advisable, by the use of negative or veto controls over private investment.

Novel problems arise, on the other hand, when individuals are suddenly found to save again, and when private investment ceases pushing incessantly against the limits which have been assigned to it in the total investment program, but starts to fall short of these limits. For a number of reasons it appears unlikely that foreign countries in general, and those of Western Europe in particular, will be able or ready immediately to counteract such developments. In the first place, a mere reversal of the policies followed during the inflationary phase such as, for example, the lifting of credit and investment controls, may be ineffective in reviving demand. Secondly, in countries where inflations have been protracted and violent, the authorities may prefer to err on the side of disinflation, at least for a while. This may be sound policy also because such inflations presumably have given rise to considerable misdirection of resources which ought to be corrected. Finally, and most important, the trend toward recession brings almost automatically a certain improvement in the foreign exchange position of the countries concerned and their authorities will, therefore, hesitate to take "compensatory" measures which are likely to re-create the same degree of

¹ Commissariat General du Plan de Modernisation et d'Equipment, *Perspectives des Ressources et des Besoins de l'Economie Française* (Paris 1947), p. 73.

² *The Economist*, April 9, 1949, p. 669.

dollar shortage as existed prior to the onset of the adjustment process. Clearly, the loosening up of the labor market and of resources in general ought to be taken advantage of in order to carry out a reorientation toward export industries (or toward activities providing domestic substitutes for imports).

Economic policy, therefore, will not be concerned solely with the restoration of a sufficient aggregate of effective demand. Balance of payments preoccupations will probably rule out indiscriminate "reflation" with its reliance on the automatic working of the multiplier, and will rather point to the necessity of specific direction of the re-expansion process. But the official investment planning seems to be efficient mainly in expanding the so-called basic sectors of the economy (energy, transportation, iron and steel). With the exception of some large-scale industries, such as petroleum refining and shipbuilding, the official planners do not seem to have been very successful in planning directly for the expansion of exports, not to speak of their direction. This may be a field where exchange rate adjustments, which would render exporting attractive to business, could play a useful rôle not only in immediately producing greater balance of payments equilibrium, but also in generating and guiding a new investment wave.

The present uncertainties about the future course of business activity in European countries make it necessary to re-examine Economic Cooperation Administration policy concerning the so-called counterpart funds which derive essentially from the sale of ECA-financed commodities within the countries receiving aid. Hitherto the United States power over the use of these funds was used primarily to fight inflation, either directly by withholding them from current spending, or by making release dependent on effective anti-inflationary action. With deflationary tendencies outweighing inflationary pressures a reversal would consist in stopping debt retirement programs which are followed in a number of countries and in supplementing releases by additional expansionary action by the foreign governments. But in view of the undesirability of a policy of indiscriminate reflation, such a simple about-face would in general not be adequate; it will be necessary for the ECA to make sure that spending of counterpart funds does not promote short-run recovery from recession at the expense of impeding longer-run recovery from the dollar shortage.

II. International Repercussions of a Recession

In examining the implications of a recession for international balance of payments equilibrium, we shall assume at first that a downturn occurs only in the United States while other countries continue to enjoy a high level of economic activity.

Effects of a Recession in the United States Only

This is almost a classical case by this time, for most discussions about appropriate postwar international economic policy have taken this situation as their starting point. It generally was assumed that a fall in U. S. demand would produce balance of payments difficulties abroad, and an international equivalent to the theory of internal compensatory fiscal and monetary policies was elaborated by such writers as Nurkse and Triffin. In such a situation, it was propounded, it would be wrong for the affected countries to "play the rules of the gold standard game" and to contract money and income. On the contrary, international currency reserves ought to be freely spent and the contractive domestic effect of the outflow properly counteracted so as to avoid spreading the deflation and intensifying it in the United States. This analysis is based on two assumptions: First, that there is an approximate balance in international economic relations before the start of the recession; second, that the countries whose balances of payments deteriorate as a result of the recession have reasonably ample foreign exchange resources—either as central bank reserves or as readily available drawings on the International Monetary Fund. We shall now explore the implications of the fact that neither of these assumptions is valid under present conditions.

A depression in a leading trading country is practically certain to create balance of payments problems for its trading partners only if its balance of payments is in approximate equilibrium at the time a recession sets in; but if that country already maintains a considerable export surplus before the onset of the recession, the same proposition does not necessarily hold. The reason for this is quite elementary. A recession starting in the United States will lower the volume and prices of American imports, but it will also decrease the price of American exports. In a situation where this country maintains a huge export surplus the latter factor could easily outweigh the former, *i.e.*, the dollar savings accruing to a foreign country from the fall in import prices could well exceed the loss sustained by the shrinkage of its exports.

This reasoning ought to apply with particular force to the countries participating in the European Recovery Program since in 1948 they still exported to the United States only about one-fourth of their purchases in this country. The 1947 Survey of the Economic Commission for Europe had shown how close to one-half of the increase in Europe's balance of payments deficit from 1937 to 1947 was due to the increases in world prices, quite apart from any deterioration in the terms of trade.³ A recession with its decline in dollar prices could corre-

³ Economic Commission for Europe, *A Survey of the Economic Situation and Prospects of Europe* (Washington, 1948), p. 60.

spondingly improve Europe's international position even though the volume of its exports to the dollar area were to be somewhat reduced.⁴

If the above consideration is valid, a recession in the United States could cease to be an unmitigated evil for foreign, and in particular for European, economies. Nevertheless, much relief cannot be expected in this fashion if only because rather narrow limits are set through legislation to a fall in American export prices in the area where it would do Europe most good, that is in agriculture.

Furthermore, a fall in the world price level would profit Europe only if three conditions are fulfilled: (1) the fall in the volume of European exports must not be such as to wipe out the dollar savings obtained through the fall in import prices; (2) the volume of Europe's imports must be held in check in the face of the decline of their prices; and (3) the amount of financial aid must not diminish concurrently with import prices.

It is easy to see that these conditions are only partially met.

In the first place, the United States income elasticity of demand for European exports is likely to be high since Europe exports to the United States a large proportion of luxury and semi-luxury articles.⁵

With regard to the volume of imports, European economies may be relied upon not to expand their imports merely in reaction to price declines. But a tendency toward an increase in the volume of European imports from the United States could nevertheless be expected to assert itself once the domestic sellers' market in the United States had changed into a buyers' market. For this development would permit foreign countries to obtain items previously reserved for domestic consumers and would speed up delivery schedules of American manufacturers for foreign orders of machinery and equipment.

⁴ The present paper was written in April 1949, before the outbreak of the new British dollar crisis. This crisis may be held to contradict the view that a mild U. S. recession would not necessarily be unfavorable for the balance of payments position of a country receiving large amounts of American aid. It is highly misleading, however, to explain the loss in British reserves primarily by a decline in U. S. purchases, in other words by the recession in the United States. The main causes of the deterioration in Great Britain's external position during the second quarter of 1949 were rather various capital transactions and increased imports by the United Kingdom and other sterling area countries. The dollar losses incurred by the decline in U. S. purchases of sterling area goods would have been largely compensated by the savings effected through the decline in prices of U. S. exports to the sterling area provided the volume of these exports had remained constant. Moreover, in 1948, the sterling area covered two-thirds of its imports from the United States by its exports, and this relatively high percentage places it outside the class of countries (such as France, Italy, Germany) to which our argument applies with particular force.

⁵ See Randall Hinshaw, "Prosperity, Depression and the British External Problem" in *Foreign Economic Policy for the United States*, Seymour E. Harris, ed., (Cambridge, Mass., 1948), p. 84, for data on the high income elasticity of demand for British products in the United States.

The third condition for a price fall to result in balance of payments relief for deficit countries is a *ceteris paribus* with respect to U. S. aid. The continued existence of sizeable foreign aid programs during the current readjustment is a substantial safeguard against an international spread and deepening of a recession just as the abrupt end of private U. S. lending at the onset of the Great Depression had then an important intensifying effect. Nevertheless, there are certain limitations to the extent to which foreign aid outlays may be relied on as a stabilizing factor. In the first place, the emphasis on the real or commodity aspect of our aid tends to provoke curtailments of the dollar amount of aid made available when prices fall. Beyond this technical consideration, it is already apparent that a recession in the United States may bring about a decreased willingness to maintain our foreign aid programs although at least a slowing down of the scheduled progressive reduction in these programs may be called for from the point of view of business cycle policy.⁶

All in all, it appears therefore more than doubtful that the European countries will obtain much relief from a recession in the United States. All that may be affirmed is that the countries receiving large-scale U. S. aid are likely to fare better in a recession than those countries that obtain their dollars primarily by selling goods and services to the United States. The latter countries will feel the full impact of the fall in American demand, and they are quite unlikely, under present circumstances, to apply the policy of freely spending their dollar reserves. Over the past years, all countries have become conscious of the dollar problem and of the desirability to husband their scant remaining dollar resources. A country that sees its dollar deficit increase because of reduced American purchases would immediately retaliate against American exports.

It would seem, therefore, that, in the event of a recession, we would have a special responsibility with respect to those countries that so far have received their dollars primarily through trade channels rather than in the form of U. S. aid. Moreover, it may be in our own interest to see to it that immediate curtailment of their imports from the United

⁶ If it is assumed, of course, that the federal budget ought to be in balance under all circumstances, then it is possible to argue, as has been done during recent Congressional debates, that our foreign aid programs are not inflationary—the contention of 1947-1948—but deflationary since they make necessary a greater tax burden than would be required otherwise. This argument would be particularly strong if it is found that the recipient countries do not actually spend all of the aid received, but accumulate an important fraction of it in the form of additional reserves. To tax the American consumer in order to permit foreign Central Banks to hold idle dollar balances would indeed be purely deflationary action. For this reason, stabilization loans ought to be financed through public debt transactions or through direct banking operations rather than through appropriations.

States in retaliation for decreased exports to the United States is avoided or minimized.

Effect of a Recession in Foreign Countries

It was stated in the preceding section, that under present circumstances a recession arising only in the United States could have less unbalancing effects on foreign economies than was generally believed. This statement would need to be less surrounded by qualifications if it is assumed that simultaneously there is some disinflation in foreign countries.

For the purpose of our analysis it would be tempting to distinguish two components of the dollar shortage: a "monetary" one which would designate the external consequences of the condition of "open" or "repressed" inflation which has characterized European, South American, and other economies since the war; and, secondly, a "structural" component which would express the needs for temporary outside financing required to attain a certain level of productivity while maintaining a socially necessary standard of living. Unfortunately the line of distinction between the two components cannot be drawn with any precision. Inflation often involves a special balance of payments drain caused by capital flight, by wasteful investment, and by failure to export; but it is impossible to tell how big this burden is in relation to the total deficit. Moreover, it is likely that a prolonged inflation cannot be stopped without provoking a downturn and without thereby doing away with part of the "structural" component of the dollar shortage, in addition to the monetary one.

In such a situation the need for aid dollars will probably decrease suddenly and situations may arise in which a foreign country is actually unable to absorb foreign aid in the amounts available.

Conditioned as we already are to a general dollar shortage, such inability to absorb aid almost strikes us as something against nature, but it is of course not any more perverse than the inability of an economy to make reasonably full use of its manpower and machinery. A very striking example of this type of situation has been given by Italy which has accumulated in the form of additional reserves of gold and foreign exchange close to one-half of the aid received in 1948-49. This has been done indirectly, of course (*i.e.*, by not using the dollar proceeds of its exports), since ERP dollars are necessarily tied to commodity imports, even though not to imports from the United States. The accumulation of reserves has been largely the result of the stabilization of the Italian internal situation combined with the adoption of a more realistic exchange rate than prevailed elsewhere in Europe.

Similar instances of inability to absorb aid and of accumulation of

foreign exchange reserves have been encountered in other countries where symptoms of a recession have appeared, such as Germany and Belgium. These examples serve to show that our view of a gradual and regular tapering off of the need for aid may be based on the unrealistic assumption of a world where planning is perfect and business cycles are non-existent. After the immediate reconstruction period when war damage is largely repaired, when pipelines are refilled, when some of the most important deferred demands in both consumption and investment are satisfied, and when the monetary overhang has been worked off in one way or another, many foreign economies are likely to pass through a period of adjustment during which their needs for foreign aid may be smaller than in a subsequent period when a new cycle of investment is undertaken. But the very fact that we have not made any provision for cyclical changes in determining the need for aid may help in the overcoming of foreign recessions. For the accumulation of dollars on the part of a foreign country experiencing a recession and the realization that it may well face a cut in aid if the accumulation continues may yet cause it to throw caution overboard and to undertake vigorous anti-deflationary action.

Thus it becomes possible to distinguish three postwar stages in the interaction between internal and external disequilibrium. It cannot be denied that to a certain extent during the immediate postwar period an inflation carried with it a dollar premium.⁷ In a second period, as the volume of our aid shrank, anti-inflationary policies gained in attractiveness since they permitted foreign countries to absorb the decrease in our aid with a minimum of internal stresses. In a third period, the competition for the dollars made available by us may yet become a powerful factor in avoiding any prolonged recession of foreign economies. This would be a new and possibly quite valuable mechanism: so far, every country that in a depression made faster progress than the rest toward recovery was penalized by experiencing a strain in its balance of payments and a loss in reserves. Now, with the resulting deficit being made good by dollars contributed by the United States out of a limited amount of aid, the penalization would be changed into reward.

⁷ It is not implied that foreign countries have willfully engineered inflation in order to become "eligible" for U. S. aid. An inflation is far too much fraught with social and political dangers for it to be provoked lightly by any government. In so far as inflations have resulted from positive action, rather than from omissions, on the part of national governments, they have been due to overambitious investment and development programs, rather than from any conscious attempt to capture a larger share of U. S. aid than would have been obtained otherwise.

THE THEORY OF PRICE OF STORAGE

By HOLBROOK WORKING*

The theory here considered is an attempt to solve a problem presented by conflict of accepted theory with observed price behavior. It seems to have important implications regarding consequences of futures trading, and to throw some light on the general subject of effects of economic expectations. The problem arises out of evidence on *inter-temporal price relations*, and we must first take time to get a clear view of the essential facts which must be comprised in a theoretical formulation.

I. *The Problem*

Inter-temporal price relations are here defined as relations *at a given time* between prices applicable to different times. For examples, one may take the relation at a given time between a spot price and a forward price for the same commodity; or one may take the relation between two forward prices, such as the relation between prices of the December and the May wheat futures, or the May and the September futures, at a given time.

We exclude from "inter-temporal price relations" the relation between price today and price at some previous date, or the relation between prices at two previous dates. Such relations are not relations between simultaneously quoted prices applicable to different times; they express price *changes* which occur through time, and may best be characterized simply as price changes. They are brought into relation only by the artifice of a statistical table or chart.

It has been customary to regard an inter-temporal price relation as commonly a relation between two substantially independent prices. For example, if the price of September wheat is quoted in April at 15 cents per bushel below the simultaneous quotation for the May future, the customary explanation has been that the relatively low price of the September future reflects expectation of a large wheat harvest, which will depress the price of wheat by September, but which (so the explanation runs) cannot affect the price of wheat in May.

Now empirical investigation has shown this explanation to be wholly

*The author is economist and professor of prices and statistics at the Food Research Institute, Stanford University.

mistaken. In the first place, the amount by which the price of the September future is discounted relative to the May future *does not* depend on the expected size of the crop to be harvested between May and September. In the second place, it is *not* true that expectations regarding the coming crop can have no effect on the price of the May future; on the contrary, expectations regarding the harvest which will occur after May affect the price of the May future in approximately the *same* degree as they affect the price of the September future. Sometimes, indeed, changes in expectations regarding the coming crop seem to affect the price of the May future *more*, in cents per bushel, than they do the price of the September future. There seems to be some tendency for the relation between the two futures to remain constant in *percentage* terms, if nothing happens except a change in expected size of the new crop. Suppose, for example, that in early April the price of September wheat is \$1.50 per bushel, and the price of May wheat is 10 percent higher, at \$1.65. Now suppose that serious crop damage is thought to be detected during April and the price of September wheat rises to \$1.80; the price of May wheat may very well rise to about \$1.98, maintaining the former percentage relation to the price for September delivery, but actually rising 33 cents, under the influence of supposed crop damage, where the rise in price of the September future was only 30 cents.

The foregoing statement of fact is based on empirical studies which have attacked the question from other angles besides the one suggested above.¹ The results from all lines of investigation concur in indicating that prices quoted at one time, in a futures market, for two different dates of delivery, stand in a relation which in general *does not* reflect expectations regarding events that may occur between the two delivery dates. This conclusion holds whether the dates lie in separate "crop years," as in the example considered above, or in the same crop year.

What, then, *are* the influences which determine inter-temporal price relations? In the example considered above, a true explanation would be that the price of May wheat (in April, let us say) is above the

¹ See the following publications, issued under *Wheat Studies of the Food Research Institute*: "The Post-Harvest Depression of Wheat Prices," November 1929, VI (1); "Price Relations between July and September Wheat Futures at Chicago since 1885," March 1933, IX (6); "Price Relations between May and New-Crop Wheat Futures at Chicago since 1885," X (5); "Price Relations of Liverpool Wheat Futures with Special Reference to the December-March Spread," XVII (3). All are by the present author, the last in collaboration with Sidney Hoos. Some theoretical implications of the findings other than those considered here are examined, and more detailed citation of evidence is given, in "Theory of the Inverse Carrying Charge in Futures Markets," *Jour. Farm Econ.*, Vol. XXX, No. 1 (Feb., 1948), pp. 1-28, and "Professor Vaile and the Theory of Inverse Carrying Charges," *Jour. Farm Econ.*, Vol. XXXI, No. 1 (Feb., 1949), pp. 168-72, also by the present author.

price of wheat for September delivery because the *last* crop was small (perhaps the carryover from still earlier crops was small also, contributing to the effect). So far as supplies are concerned, it is only supplies *already in existence* which have any significant bearing on a current inter-temporal price relation of this sort.²

This statement of fact poses the theoretical problem to which we now turn. How shall we account for the observation that it is existing supply rather than expected change in the supply which is involved in determining inter-temporal price relations? The answer is easy for one set of circumstances, which we may consider first.

II. *Clear Aspects of the Theory*

The theory of inter-temporal price relations is simple and has long been fairly well understood so far as concerns the condition of large supplies, involving stocks which must be carried from one date to another in such volume that direct economic reward must be offered for the service of stock-carrying. In those circumstances, relations between prices for delivery at the two different dates are commonly regarded as depending on the "cost" of carrying the stocks. This is a condition which has often existed for wheat in the United States as regards the relation between prices for December and for May delivery. It is commonly said, with approximate accuracy, that in the presence of abundant supplies the price for May delivery tends to be the price for December delivery plus the cost of storing wheat from December to May. At various times in the past supplies have been so large that even the relation between the price for May delivery near the end of one crop-year, and the price for delivery in the subsequent September following a new harvest, seemed clearly determined by the cost of storing wheat over the interval.

This theory of inter-temporal price relations under the condition of abundant or super-abundant supplies has the defects common to all cost theories of return for an economic service. If the return for a service is determined freely and competitively, it will vary according to demand and supply conditions. Such is the case with returns for storage of wheat. If stocks to be stored are exceptionally large, the return for carrying wheat may exceed the "cost" of storage, as conventionally calculated. If stocks are quite moderate, competition among firms with storage facilities tends to result in the storage being provided for a rather small return per bushel.

² In some special cases this statement is subject to minor qualification, but the cases are such as have not been found in the United States wheat market. The basic theory of inter-temporal price relations must be founded on conditions such as are described in the text and then elaborated, if necessary, to cover conditions of more complex character.

This amendment of the theory first described above leads to explaining inter-temporal price relations under the pertinent conditions as determined by a competitive "necessary return for storage." We may now say that the price of wheat for May delivery exceeds the price for December delivery by the amount of the *necessary return for storage* from December to May. Given a futures market, active informed competition occurs in determination of the necessary return, because any elevator operator who hedges the stocks he carries knows within rather narrow limits what return he will receive for the storage service rendered.

Near the end of November, for example, the hedger may make a choice whether to sell wheat which he has in store or to carry it until May. For purposes of the reasoning, it makes little difference whether the wheat at the time of decision is hedged in the December or in the May future; if the hedge is in the December future, decision to hold beyond December will require transfer of the hedge to the May future, at a cost, at most, of only 0.3 cent per bushel, and at a cost of only 0.15 cent per bushel if the hedger holds membership in the exchange, as large hedgers do for the sake of such savings. Suppose the hedge already in the May future. In making his decision, the hedger assumes as a first approximation that at the end of April the price of the wheat he owns will stand in the same position relative to the price of the May future as it holds at the end of November relative to the December future. If events should conform to that assumption, his return for storage would be exactly the amount by which the price of the May future exceeded the price of the December at the time the decision was made. If he thinks that the price of the wheat he owns will either appreciate or depreciate relative to the price of the specific quality of wheat represented by the futures contract, any such expected change must be applied as an adjustment to the known price difference between the two futures in order to arrive at his expected return for storage. Yet even in cases where there is opportunity for substantial change in relation between the price of the wheat owned and the price of "contract wheat"—opportunity which may exist either because of a large difference in quality or because of a large difference in location—it is common to make no adjustment for this possibility because the most reasonable assumption at the time is that no change in relation will occur. In any case, the known relation between prices of the two futures gives the hedger a basis for anticipating his return for storage which is far superior to any estimate which could be made in the absence of a good hedge in a futures market or of an outright forward sale of the actual wheat.

Thus existence of a futures market, coupled with the practice of

hedging, gives potential holders of wheat a precise or at least a good approximate index of the return to be expected from storing wheat. This is an important fact which has been too much neglected in discussion of the economics of futures trading. It is through supplying a direct measure of the return to be expected from storage, and a means, through hedging, of *assuring* receipt of that return, or of approximately that return, that a futures market makes its most direct and powerful contribution to the economical distribution of supplies of a commodity over time.

A known return for storage is, in essentials, a price of storage. The fact that the price of storage is not quoted directly, but must be derived by taking the difference between quoted prices of wheat for two different dates of delivery is immaterial for the economic reasoning. The price difference, at least when it is positive, is in all essential respects itself a price of storage, determined in a free market through the competition of those who seek to supply storage service. The general form of the storage supply curve is known from statistical studies and may be represented as in Figure 1.

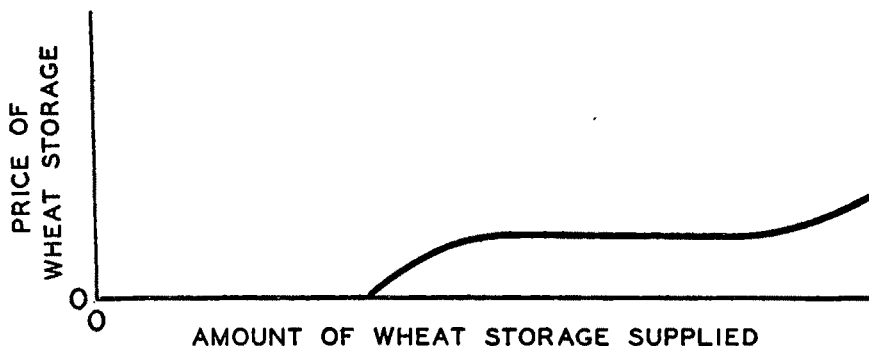


FIGURE 1. STORAGE SUPPLY CURVE

Because Figure 1 is a generalized representation, scale values are not shown except at the origins, which are taken as zero for both price and amount of storage. The price scale depends, among other things, on the length of time-interval involved; for example, the price figures will be larger for storage from September to May than for storage from December to May. The quantity scale depends, for one thing, on the time of year, for reasons that are somewhat complicated, but relate partly to opportunities to use the storage facilities for storing other grains. This observation suggests that the position and form of the curve itself may change somewhat from year to year with variation in those alternatives. The scale depends also on the measure used

for amount of storage; the indices of amounts which are available for statistical analysis are not quite the measures which would be chosen for theoretical discussion.

III. *The Theoretical Problem*

The foregoing theoretical treatment does not meet the problem posed at the outset because this theory considers only the case in which the price for later delivery is *above* the price for earlier delivery, affording a positive return for storage, or price of storage, whereas the problem tends to emerge clearly only when the price for deferred delivery is *below* the "nearer" price.

One approach to treatment of the latter class of circumstances is afforded by extending the theory to admit consideration of negative prices of storage. We may then draw the supply curve for storage as in Figure 2, which differs from Figure 1 only in that the curve of the

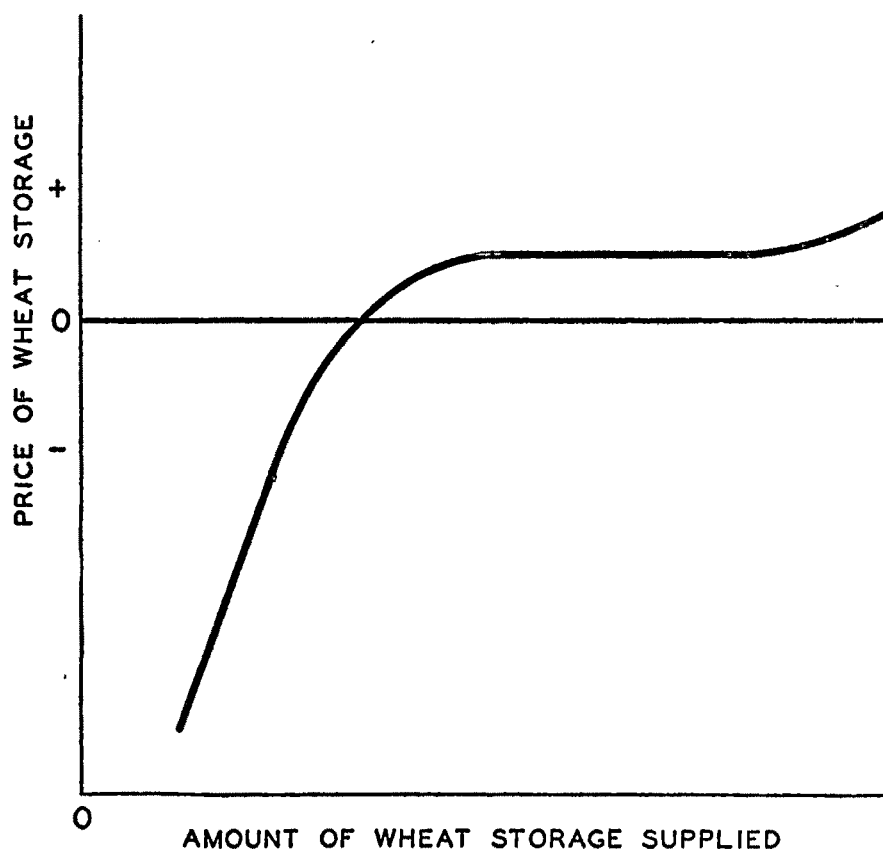


FIGURE 2. COMPLETE STORAGE SUPPLY CURVE

earlier diagram is extended downward and to the left, into an area of negative prices.

This diagram also is founded on statistical observation. When the difference between prices for near and for later delivery, which we have seen may profitably be regarded as a price of storage if it is positive, takes negative values, wheat is nevertheless stored in substantial quantities over the time-interval considered. The amount which is stored, however, tends to be less when the "price of storage" is negative and large, than when it is negative and small. There is strong evidence that the continuity of the curve is uninterrupted where it crosses the zero line.

Let us now consider a question which might have been raised with regard to Figure 1. Both Figure 1 and Figure 2 show, as is demonstrably the case, that a large amount of storage is supplied even when the price of storage is exactly zero. One condition which makes that possible is the fact that storage of grain is an enterprise in which most of the costs are fixed costs, from a short-run standpoint. Another important condition is that for most of the potential suppliers of storage, the costs are joint; the owners of large storage facilities are mostly engaged either in merchandising or in processing, and maintain storage facilities largely as a necessary adjunct to their merchandising or processing business. And not only are the facilities an adjunct; the exercise of the storing function itself is a necessary adjunct to the merchandising or processing business. Consequently, the direct costs of storing over some specified period as well as the indirect costs may be charged against the associated business which remains profitable, and so also may what appear as direct losses on the storage operation itself. For any such potential supplier of storage, stocks of a commodity below some fairly well recognized level carry what Kaldor has aptly called a *convenience yield*.³ This convenience yield may offset what appears as a fairly large loss from exercise of the storage function itself.

Thus we have an explanation not only of why large quantities of wheat are stored in the absence of any direct return for storage, but also of why wheat is stored when the figure which we have chosen to call "price of storage" is negative. There remains, however, the question whether it is good theory to treat these negative values as negative prices. Should we, rather, say that the difference between prices of a commodity for two different dates of delivery may be considered a price of storage only when the indicated price is positive, and that some other theoretical treatment of the relation should be provided to cover the

³ Nicholas Kaldor, "Speculation and Economic Stability," *Rev. Econ. Stud.* (1939-40), Vol. VII, p. 6.

area of negative values? Other possible treatments come to mind, but none which seems to me to have merits which warrant advancing it as preferable to recognition of the existence of negative prices of storage.

IV. *Supplementary Considerations*

If we leave open the question which has just been raised, there may be occasion to reconsider how well, in fact, the price-of-storage theory serves in the area of positive "prices of storage." Two limitations of the theory may be noted: (1) much storage is supplied by people who do not hedge and who decide to store, or not to store, without regard to what we have called the price of storage; and (2) much storage by those who do hedge earns a return which is not exactly equal to the market price of storage. Neither of these limitations has any importance from the standpoint of principle, however; each has its counterpart in familiar price theory. If people store without regard to the current market price of storage, so do people produce vegetables without regard to the current market price of vegetables. And if some people store because they expect to receive a higher return than the quoted market price of storage, so also do people produce goods in expectation of a higher return, owing to quality or to place of sale, than the price recorded in available quotations.

A particular merit of the price-of-storage theory is that it exposes clearly the fact that in the presence of hedging much storage does occur in response to a recorded, and competitively determined, assurance of return specifically for the storage itself. This creates a situation very different from that where storage is undertaken simply in the hope of price appreciation. As has been remarked, this establishment and recording of an exactly or approximately known return for storage is a principal means by which futures markets facilitate the economical distribution of supplies through time.

This merit of the price-of-storage theory is one which argues for extending the theory to cover negative prices. The negative prices occur when supplies are relatively scarce. They then impose pressure on hedging merchandisers and processors to avoid holding unnecessarily large quantities out of consumption in the form of stocks which they can do without.⁴ Thus a negative price of storage makes available for consumption in a year of shortage, supplies which would otherwise remain tied up in "convenience stocks." In the case of wheat in the United States, the quantity which may be drawn out of pure con-

⁴ A correspondent whose remarks have been much appreciated has advanced the objection that recognition of a negative price of storage implies that people are paid for *not storing*. To my mind, it implies that people are paid *in reverse* (that is, have to pay) for such storing as they choose to do.

venience stocks and made available for current consumption by a negative price of storage is of the order of 75 million bushels.

The main reason, of course, for adopting the cost-of-storage theory, or some alternative which provides *direct* explanation of inter-temporal price relations, is that some such explanation is necessary to account for observed price behavior. Only some direct explanation of the price relation in terms of an existing condition can account for the fact that expectations regarding future events, which are directly pertinent to a distant forward price, have approximately the same effect on spot and near forward prices as on a distant forward price.

COMMUNICATIONS

Federal Expenditure and Revenue Policy for Economic Stability

Editor's note—The following statement, together with a second statement *Fiscal Policy in the Near Future*, was transmitted to the Joint Committee on the Economic Report September 23, 1949. See: *Federal Expenditure and Revenue Policies*, Hearings before the Joint Committee on the Economic Report, September 23, 1949, 81st Cong., 1st sess., U. S. Government Printing Office, Washington, D.C. The reports were also printed in *Monetary, Credit, and Fiscal Policies*, a Joint Committee print of statements from various sources and in the *Congressional Record*, September 26, 1949, pp. A-6137-9. The statement is of such general interest to economists that it was thought desirable to reprint it in the *Review*.

The statement was drafted at a conference called by the National Planning Association at Princeton, N.J., September 16-18, 1949, at the request of the Subcommittee on Monetary, Credit and Fiscal Policies of the Joint Committee. It was adopted unanimously by those attending. The signers were: Howard R. Bowen, Howard S. Ellis, J. Kenneth Galbraith, James K. Hall, Albert G. Hart, Clarence Heer, E. A. Kincaid, Simeon E. Leland, Paul Samuelson, Lawrence H. Seltzer, Sumner H. Slichter, Arthur Smithies, Tipton R. Snavelly, H. Christian Sonne, Jacob Viner, and Donald H. Wallace.

Introduction

Although our economic system accords a dominant rôle to private enterprise, government expenditures and receipts have now reached a scale that make them crucially important factors in our national welfare. In 1949, with a gross national production of 250 billion dollars, the federal government is spending more than 40 billions, while federal, state, and local governments together are spending around 60 billions.

Government programs of this size make it more than ever desirable that every dollar of government expenditures be used as efficiently as possible. We are not rich enough to afford waste of resources by government any more than by anyone else.

It is equally important that the expenditure and revenue programs of government, in their formulation and execution, be consistent with the progress and stability of the private economy. The fiscal policy of the government must make useful positive contributions to the maintenance of high levels of employment and income—the goals declared in the Employment Act of 1946 to be a national objective.

Government affects business through both sides of its budget. Payments to government employees, bond holders, veterans, the aged, and the needy all constitute income that can be used to buy consumption goods from business; government procurement affords a direct market for business. On the other side of the budget, taxes capture funds that consumers might have spent or that business firms might have invested in improved facilities. Taken by themselves, tax collections tend to shrink the market of private business, contract employment, and lower prices; just as, taken by themselves, government ex-

penditures tend to expand the market for business, increase employment, or raise prices.

It is not only the size of revenue and expenditure that counts; their composition must also be considered in any appraisal of the effects of government policy. The economic effects of a billion dollars collected in the form of income taxes will be different from those of a billion dollars collected in excise taxes. Spending to build roads may stimulate private investment in automobiles, trucks, and garages; there are other forms of expenditure that may have adverse effects on private investment. Rationally or irrationally, government spending and taxing may greatly affect the climate within which families and businesses make their decisions.

The Principle of an Annually Balanced Budget

The traditional goal of fiscal policy was to secure a balanced budget in every single year. But that objective has now proved impracticable and, besides, has serious disadvantages in principle. There is not even a clear or unique concept of "budget" to which the requirement of balance could be applied. For instance, in the *regular budget*, bookkeeping transfers to the social security trust account are classified as expenditures. As a result of this, that budget may show a deficit at a time when the *cash budget* shows an excess of receipts over outgo. But even the cash budget may not be adequate to portray the effects of fiscal policy; taxes may have their impact when tax liabilities are incurred rather than when payment is made; purchases may have their impact when contracts are entered into rather than when disbursements are made. However, where a single budget concept is used in economic analysis bearing on stabilization policy we prefer the cash budget to any available alternative.

Compared to the full span of the business cycle, a year is a short period of time. To insist upon a balance in every single year is certainly undesirable and to attain it is probably impossible. To attempt to raise tax rates every time there is a decrease in national income will only result in discouraging private consumption and investment at a time when these are most in need of expansion; on the other hand, to try to eliminate a tax surplus by cutting tax rates or expanding government activities would serve to increase inflationary pressures at a time when they are already acute.

If the budget were balanced in good years as well as bad, there would have to be either big fluctuations in expenditure programs or severe and perverse changes in tax rates. To vary expenditures in this manner would disrupt the essential services provided by government. Applied to military expenditures, it would mean a large defense program in boom years and a small defense program in depression years. This is both ineffective and wasteful. Government would be increasing its employment of resources when they were scarce and cutting down on their use when they were abundant. This, of course, would aggravate the fluctuations in private business.

The Problem of Controlling Government Expenditures

Annual budget balancing is, thus, both difficult in practice and unsound in principle. But one great merit it does have: it provides a yardstick by which

legislators and the people can scrutinize each activity of government, testing it both for efficiency of operation and for its worthwhileness in terms of cost. Every government program undertaken has to be paid for in a clear and unequivocal sense. The Legislature and the Executive are required to justify additional taxes equal to the cost of any new program. This is a principle every citizen can understand. If dropping the principle of annual budget-balancing were to mean dropping all restraints to unwise and inefficient expenditure, grave damage would be done to our economic and political system.

Were expenditures divorced entirely from the need for taxation, political opposition to extension of the government's expenditure programs would largely disappear. The scale on which the public sector absorbs resources would grow beyond what was really desired by the people as a whole; sooner or later the country would find itself in a state of chronic inflation. Such inflation is a sign of weak government and comes from eagerness to spend without a willingness to tax. Accordingly other general principles, other habits of thought and of action must be set forward to insure the standards of judgment and the self-discipline of government's activities and to do better what the principle of annual budget policy attempted—though imperfectly—to accomplish.

Experience shows that business activity has its ups and downs. There is thus a strong case for counter-cyclical fiscal action—surpluses in good times and deficits in bad. If we do not adopt such a policy deliberately we are likely to be forced into an imperfect version of it through the pressure of events. One of the major questions for the future is how such a policy can be administered with the restraint and efficiency that is supposed to be achieved through the balanced budget rule. If a flexible policy is to win acceptance, it must not be used as an excuse to introduce expenditure or tax programs that cannot be justified on their merits. Boondoggling should have no place in a rational fiscal program.

We doubt whether it would be possible, or even desirable, to rely exclusively on fiscal action to offset fluctuations in private business. That course could easily involve changes of impractical magnitudes in taxes and expenditures; it would mean placing excessive reliance on one measure for achieving economic stability and growth; it would involve problems in forecasting beyond the reach of present knowledge and techniques.

We can, however, reasonably expect that the budget be formulated in the light of economic judgment available that takes full account of the actual course of events and should contribute to economic stability rather than aggravate instability. In view of uncertainties, part of the planning process should be preparation for quick adaptation of fiscal operation to changing circumstances. Certain automatic devices for bringing remedial forces quickly into play are in a stage where they deserve consideration.

Guides to Fiscal Policy in Normal Times

When the economy is prosperous and stable and there is no clear-cut reason to expect a change in any particular direction, the objective of policy should be to adapt the budget to changes in the government's requirements but to leave its economic impact on total employment and purchasing power un-

changed. This could be approximately achieved if newly planned increases or decreases in expenditures were to be matched with corresponding changes in planned tax receipts. The net expansionary or contractionary effect of the budget would then remain roughly the same. Thus, in conditions of continued prosperity, a modified version of the balanced budget rule could be used as a guide: taxes should grow or shrink corresponding to desired changes in expenditures. Thus proposed increases in expenditures would be exposed to the traditional test of whether they are worth their cost in terms of taxes.

However, if recent events and the outlook for the near future pointed, on balance, toward unemployment and deflation in the private sector of the economy, then budgetary changes should be made in the direction of producing a moderately expansionary effect. New government expenditure programs should still be considered on their merits, but the additional taxation that in prosperous times would accompany them should now be deferred. Taxes that are deferred in these circumstances should be put into effect as soon as that can be done without impeding recovery. There should be no delay in making the tax reductions warranted by any reductions in government expenditures; and if expenditure requirements are expected to decline in the future, anticipatory tax reductions could be enacted.

On the other hand, if the weight of the evidence appeared to be on the inflationary side, the opposite policy should be followed. The rule that increased expenditures should be accompanied by increased tax yields should be rigidly followed. Tax reductions that would normally be in order should be deferred; and tax increases should anticipate expected increases in expenditures.

Guiding Principles in Time of Acute Recession or Boom

Where there is a definite expectation, justified by events, of serious recession or inflation, more strenuous fiscal measures would be called for, and the policies described above should be supplemented by emergency fiscal action.

In the event of severe recession, it is not only politically necessary, but economically desirable to provide additional employment projects that can be started and ended quickly. Temporary tax relief should be given in order to stimulate private spending and employment. Other incentives for private investment, such as guarantees, should be considered. There can be no social or economic justification for allowing mass unemployment to persist for extended periods at a time when there is abundant need for roads, schools, hospitals, and other useful objects of public expenditures. However, we recognize that there are difficult questions of extent and timing connected with any such program. An over-ambitious government program may impede the course of recovery in the private sectors of the economy by dislocating resources and delaying needed price adjustments. On the other hand, a program that was over-cautious could needlessly fail to advance recovery by not stimulating the demand for the products of private industry. Much skill and judgment are required to move from depression to stable prosperity. We must not rely on the private economy, unaided by government action, to perform that task. The government must not shirk the responsibility placed on it by the Employment Act, and fiscal policy is one of the most promising instruments it possesses.

On any occasion when serious inflation is in prospect, emergency measures would be needed to curtail expenditures and increase taxation. Wartime and postwar experience provides convincing evidence that the political obstacles to a fiscal policy adequate to combat inflation are so great that there is little practical danger of going too far. The survival of a relatively free and stable price system depends heavily on our willingness to fight inflation by fiscal methods.

A policy that helps to maintain stable prosperity will be no more likely in practice to result in an upward trend in the national debt than one that does not. The course of events may in fact be such that stabilization requires steady reduction in the debt. Budgeting surpluses to fight inflation will provide for the reduction of the public debt in a helpful rather than a painful fashion. Surpluses are not feasible in times of depression. They are desirable where the private economy is strong enough for the government to tax more than it spends without causing unemployment. The private economy is not likely to possess this strength if government policies aggravate rather than offset business fluctuations.

Additional Possibilities for a Flexible Fiscal Policy

While we consider these guides for budget policy essential to a stabilization program, the annual budget cannot, in the nature of things, be based on precise forecasts; nor can it be expected to compensate for sudden and short-run fluctuations in business that occur within the period of its operation. Even though the budget can and should be amended in the light of changing circumstances, the legislative process is necessarily too cumbersome to make delicately timed adjustments in fiscal policy. Therefore, we consider whether further flexibility can be achieved by two devices which may be called "*automatic flexibility*" and "*formula flexibility*."

"Automatic flexibility" means a tax system such that revenue under a given set of tax rates will fall sharply if unemployment develops, and rise sharply in the opposite case of inflation; and expenditure programs under which increased outlays arise from increased unemployment.

"Formula flexibility" means a system under which pre-announced tax cuts and upward revisions of spending programs will come into force if unemployment exceeds a certain figure or production falls below a certain level, and pre-announced changes in the opposite direction if price indexes rise at more than a certain speed.

Automatic Flexibility

Automatic flexibility is exemplified by the unemployment compensation system. If unemployment increases, employers' contributions at once decline, while the unemployed begin almost immediately to draw more in benefits. Thus the government finds itself automatically taking less money out of the public's pockets and putting more in.

There are now many such flexible elements in federal taxes and revenues; and they have greatly increased in importance with the growth of the budget. Besides the unemployment compensation system, there is, for example, substantial automatic flexibility in personal and corporate income taxes.

Automatic flexibility can slow down and perhaps halt a decline of activity or a rise of prices; it can give time for restorative forces to come into play, but it will not, by itself, pull activity back to a full-employment level or restore prices to a pre-inflation level.

We feel strongly that the existing automatic flexibility makes an important contribution to economic stability, which should not be frittered away, as it would be, for instance, by rigid application of the annual-balanced-budget rule. But we do not believe it prudent for policy to regard automatic flexibility as more than a first line of defense; more must be done to cope with serious economic fluctuations.

Formula Flexibility

The enactment by Congress of rules under which tax rates, and perhaps of rules under which expenditure programs, will shift in certain contingencies specified in advance is a possibility that deserves further exploration. For example, the period during which unemployed workers can draw unemployment compensation might be extended according to a flexible schedule based on the volume of unemployment. The withholding rate under the personal income tax for any calendar quarter might rise by a stated amount above a standard rate whenever, say, the index of retail prices has increased by over a certain amount in the preceding six months. The withholding rate might be lowered whenever standard indices of production and employment drop below stated levels or trends.

The question of formula flexibility shades off into the question of granting to the Executive wider discretionary authority than it now possesses to initiate changes in the timing or extent of the fiscal program. This raises difficult issues of political principle and administrative responsibility. We can here do no more than call attention to them.

Conclusion

In this statement, we have confined ourselves to fiscal policy of the federal government. But, while essential, that is only one element in a stabilization policy. The policies of state and local governments can make useful contributions within their more limited spheres. Monetary and credit policies including debt management must play an active role in their own right and must be properly coordinated with fiscal policy. All necessary measures must be taken to preserve and stimulate competition. Supported by such measures, federal fiscal policy offers the best prospect of achieving sustained prosperity within the framework of our existing economic system.

The Havana Charter: Comment

In a recent article in this *Review*,¹ Sir Hubert Henderson advances the most serious objection so far registered against the International Trade Organization Charter. Unlike most critics, he attacks neither its idealism nor its con-

¹ Sir Hubert Henderson, "The Havana Charter," *Am. Econ. Rev.*, Vol. XXXIX, No. 3 (June, 1949), pp. 605-17.

cessions to realism, but holds that its basic principles are fundamentally unsuited to the conditions and problems of the modern world. Because this criticism strikes at the Charter's very roots, and also because it raises issues which are vital to the whole current approach to international cooperation, it merits careful attention.

As Sir Hubert points out, the basic principles of the ITO have never been called in question, at least by its chief sponsors. Certain desirable aims, which the Charter seeks to realise, have been taken for granted. These are: (a) a large and expanding volume of international trade, to permit the fullest possible realisation of the advantages of international specialisation; (b) as a necessary condition thereof, the "utmost practicable scope" for multilateral payments; (c) "commercial policies which satisfy the desire for equity and fair-dealing between nations" (p. 607).

From these aims, it has seemed only a short step to the principles of the Charter as a means to their realisation. The principles of the Charter Sir Hubert summarises as follows: (1) Non-discrimination; (2) Reduction of tariffs on the basis of reciprocal concessions; (3) Outlawry of import restrictions (subject to many reservations); (4) Free convertibility of currencies (relating, strictly speaking, to the Fund rather than to the ITO).

These principles seem to flow logically from the aims almost everyone accepts as desirable. But, Sir Hubert interposes, the list of principles is misleading because it is incomplete—it omits equilibrium in the balance of payments. This is a "requirement of paramount importance," and it cannot be adequately met by the numerous exceptions and escape clauses of the Charter. It is the "central problem of modern international economics," and any plans for international organisation which take it for granted or fail to approach it constructively are doomed to failure.

Turning to the specific principles of the Charter, Sir Hubert has no difficulty in showing that with respect to non-discrimination, the attitude of the United States is inconsistent. We want western Europe to reduce its dependence on us, in part by supplying itself with more from its own resources. But we are unwilling, because of our insistence on the principle of non-discrimination, to sanction preferential treatment unless it goes all the way to a customs union. Discrimination, we hold, should be permitted only for exceptional occasions, when balance of payments difficulties are serious. The normal practice should be non-discrimination.

Sir Hubert contends, however, that the distinction between "exceptional" and "normal" is unreal. "The restoration of basic equilibrium in the international balance of payments is no mere passing problem of the transition from war to peace. It is a long-term, large-scale task" (p. 608). Also, he argues with much force, a customs union for western Europe is impracticable. In the short run, control of the balance of payments is essential to each country to enable it to safeguard its international position. In the longer run, a customs union is probably over-ambitious, and therefore likely to lead to make-believe and frustration.

In its approach to tariffs, Sir Hubert feels, the ITO is passive rather than constructive, since it contributes nothing toward the solution of the para-

mount problem of balance of payments equilibrium. For it requires *reciprocal* concessions, and this means that concessions which increase America's imports must be balanced by concessions which increase America's exports by a similar amount. "This, in turn, comes very near to making it a *sine qua non* of tariff reductions that they should do nothing to solve the dollar problem or to readjust the balance of payments of the world" (p. 612). In the world as it is, the general principle should be that countries should reduce tariffs in proportion to the strength of their balance of payments position.

Sir Hubert takes a dim view of the prospects of resolving international maladjustments through the price mechanism. Reliance upon the forces of the price system are all very well when adjustments are small or marginal, but not when they are large. For the latter, "it is necessary to supplement and sometimes to supersede these forces by more direct measures, consciously directed to the object which has to be attained" (p. 613). He concludes, therefore, that the orthodox solution of large maladjustments by altering exchange rates, and proceeding from this to the reduction of tariffs and the elimination of quantitative restrictions, is misleading. Exchange depreciation is no "sovereign remedy for a balance of payments deficit." Even establishment of the correct exchange rate² tends to raise prices, costs, and incomes, and to set in motion a spiral of inflation and devaluation.³

A more fundamental consideration than the practical dangers of devaluation, however, lies in the large-scale character of the change which must be undergone by a country in straitened international circumstances. Such a country must readjust the whole structure of its economic life, in particular its habits of consumption and production. To effect a "radical change in the composition of a country's imports" requires resort to direct controls; reliance cannot be placed upon the price-making forces. "Any necessary reduction of imports will be less injurious to its standard of life, if it is *selective*, falling heavily on some items and sparing others, than if it is indiscriminate" (p. 615).

This, considerably truncated, but I hope not seriously distorted, is Sir Hubert's case. His analysis is most ably reasoned and attractively garbed. I am convinced, however, that it is fundamentally wrong, and, in Sir Hubert's own terms, misleading. Successfully to challenge his position in the sense of really joining the issue, he must be met on his own ground. Therefore it must be admitted that the problem of balance of payments equilibrium is of "paramount importance." This is certainly consistent with generally received opinion. It may be taken as an axiom that an expanding volume of international trade cannot be achieved in a world bound by exchange controls, quantitative restrictions, and the resultant bilateral trading arrangements, but that it requires as a necessary condition a fully multilateral system of payments. The latter, however, cannot be restored until the acute balance of payments disequilibrium is solved. It must also be taken for granted that,

² Sir Hubert calls it "the right degree of 'under-valuation.'" It would be better to say, "the equilibrium rate."

³ Sir Hubert admits that devaluation may be essential after internal inflation has caused a currency to become overvalued.

in line with the purposes of the European Recovery Program, western Europe will do its utmost to become self-supporting by 1952. We may reasonably assume, however, that ERP will fail by a substantial margin to eliminate the deficit in Europe's international accounts. On the basis of this area of agreement, let us examine the implications of Sir Hubert's position.

Sir Hubert urges us to choose a particular method of organising the economic relations of nations with a view to solving their urgent balance of payments problem. In essence, his choice reduces to this: to continue, for a long period of time—and hence probably indefinitely—a system in which reliance is placed, not upon adjustments via price changes, but upon conscious regulation of the balance of payments through tariffs and quantitative restrictions.

The alternative choice is the approach adopted by the United Nations and the new international agencies associated with it—the International Monetary Fund, the International Bank, and the proposed International Trade Organization. This is to remove, within a really short period (by 1952-53), existing quantitative restrictions and exchange controls, and to adjust any remaining balance of payments disequilibrium through the establishment of exchange rates appropriate to the new conditions. Thereafter it is proposed to allow international specialisation on the basis of comparative costs to determine the movement of goods and services. As remedies for temporary disequilibria, there will be available the resources of the IMF and the use of exchange controls and quantitative restrictions according to agreed rules. To correct more lasting disequilibria, devaluation may be used if appropriate; if not, a nation's productive structure may be altered through the development of new or the diversion of existing resources. To facilitate such structural change, international financial and technical assistance will be available through the International Bank and President Truman's "Point Four." There are also the exceptions in the ITO Charter which permit the use of tariffs and quotas to foster economic development.

Sir Hubert's choice means the continuance of bilateral trading arrangements and trade controls, and *no* return to a multilateral system of payments. It can mean nothing else. But this is precisely what the experience of the 1930's and of the postwar years teaches us we should avoid. Granted that the balance of payments problem must be solved *before* a multilateral payments system becomes possible, Sir Hubert's method would solve it in a fashion which makes any such system out of the question.

We may also grant that in view of the varying degrees of inflation and of economic disruption that have plagued the different European economies, reliance upon price adjustments in an open international system *at present exchange rates* would not work. This does not mean, however, that a *major* price adjustment such as is entailed in devaluation would not correct the situation. The phenomenon which has exerted perhaps the most disorganising effect on European trade has been inflation. This now appears to be coming to an end. Trade is also returning more and more to the prewar pattern, reflecting enduring bases of international specialisation with their roots deep in the past. In these conditions, a revaluation of currencies would be appropriate (and indeed has now taken place).

But what about the danger of setting off a spiral of inflation and devaluation? Devaluation will certainly tend to raise the price of imports. If social and political conditions make wage increases unavoidable, then the spiral will appear. It can only end, as it has on numerous occasions in the past, in currency collapse and the introduction of a new currency whose international value reflects the country's international competitive status. Social and political aspirations cannot fly in the face of hard economic facts. If the productivity of a country's labor is low, the attempt to charge other nations a price which is out of line with that productivity (as by the maintenance of an overvalued exchange rate) will present that country with a chronic balance of payments deficit. For no nation can continuously buy abroad more than it sells, and it can sell a large volume of goods and services only if it prices them attractively.

Unpalatable as it is to say so, the hardships that go with devaluation and acceptance therewith of a reduced standard of living cannot be avoided. The "solution" of the balance of payments problem by arbitrary control implies just as much austerity as goes with devaluation, and probably more. For—unless the elasticity of foreign and home demands is almost unbelievably unfavorable—devaluation means some increase in the foreign value and therefore in the volume of both exports and imports. There will be more to go round. Continued overvaluation supported by exchange control and quantitative restrictions, on the other hand, means restricting imports to the low level permitted by overpriced resources. Any gain, therefore, that might be realised by a selective (and discriminatory) reduction of imports is likely to be more than offset by a decline in the overall volume of imports—not to mention the further offset involved in the resources devoted to the maintenance of an extensive system of foreign trade controls.

If this argument is sound, it means that the basic aims of the ITO and the IMF are correct—including balance of payments adjustment (when appropriate) via devaluation. They seek to restore an open trading system based on free multilateral payments, which will make possible rising standards of living founded on the fullest practicable realisation of the advantages of international specialisation. Even Sir Hubert agrees that these aims are desirable. He objects, however, to devaluation as a means of restoring equilibrium and thus making attainable a multilateral system of payments. But this is probably the key to free multilateral payments, which in turn is the key to free and expanding trade. Sir Hubert, however, chooses to throw away the key and leave the door locked.

Two special aspects of Sir Hubert's argument require further comment. These have to do with the adoption, in the Havana Charter, of the principle of reciprocal concessions in tariff negotiations, and the principle of permitting tariff preferences only as interim arrangements preliminary to the formation of a customs union (or free-trade area). I have long felt that these principles were mistaken. The United States could contribute much to the solution of today's and tomorrow's balance of payments problems if it undertook a unilateral reduction of its tariff. Naturally, this would require measures to soften the shock of adjustment and to facilitate adaptation to the changed

conditions. But to insist on a *quid pro quo* for every concession in duties, and to confine our concessions to reductions which *must be* relatively innocuous—as is implied in the escape clause providing for their withdrawal in case of serious damage to vested interests—accords ill with our present and foreseeable international position.

As to preferences, the only objection to their continuation that to me makes sense is that they generally lead to an increase in barriers to trade with outsiders. If preferences were permitted, subject to the proviso of the Charter that the approach must be via duty reductions to insiders rather than increases to outsiders, but without the requirement that any new preferential arrangement must be as a step toward complete customs union, it would seem that the rules of international good conduct were not being infringed. Like Sir Hubert, I can make nothing whatever of the logic which permits complete but not partial preference between two or more countries.

P. T. ELLSWORTH*

* The author is professor of economics at the University of Wisconsin.

Truth and Relevance at Bay

Since, to our sorrow, Frank Graham is no longer on hand to defend himself (otherwise he would need no help from this writer or anyone else), another may be allowed to take note of some features of Professor Lincoln Gordon's reply to his review of Barbara Ward's *The West at Bay* ("Libertarianism at Bay," this *Review* for September, 1949). I wish to speak of issues, not of personalities. No one need begrudge Mr. Gordon his little exercise in self-expression, at least no one about to indulge in the same sport. Since he has introduced the "issue" of manners, I may express agreement that it *does* seem like "egregious rudeness" on the part of the "libertarians" to keep telling literate adults that two and two are four and effects (usually) follow causes, and worse, it is not always done with the tender patience appropriate to kindergarten teaching. The *tu quoque* is usually true, if rarely polite or effective; and it *might* be replied that when one of Mr. Gordon's professional status in another "science" uses the pages of a professional economic journal to read a Sunday-school lecture to one of Frank Graham's age and achievements, ending by diagnosing the author, *inter alia*, of *Social Goals and Economic Institutions*, as not knowing down from up, "one" (at least) "can hardly escape" being reminded of a venerable philosophic principle, that 'you have to draw a line somewhere.' Perhaps I may venture to ask Mr. Gordon, quite humbly, for instruction on the etiquette of discussing policies with opponents whose whole argument explicitly rests on the assumption that arithmetic and predictable consequences do not matter if the heart is right and one is tolerably well read in history. However, it is weightier matters that I really wish to notice.

Mr. Gordon starts off by still insisting that the Ward volume is "on balance a good book," in opposition to Graham's characterization as "subtly dangerous and subversive." I shall not argue that it is not a "good book." There are many ways in which a book may be good, and several of these goodnesses are entirely consistent with being dangerous, and subversive of the values on which

a free society must be founded. Indeed, it is much easier to achieve literary charm if one does not bother too much about mere truth and relevance. Poetry and fiction are usually more pleasant reading than information and analysis. A fine novel, or lyric poem, or epic, may be written about a plague, asserting everything false about the nature of the disease, its causality, and effective treatment. And "these days," it is in no way surprising, to an economist, that a professor of a sister social "science" finds it "breath-taking" when Graham states the truism that a shortage arises from price-fixing. Rather, it is a phenomenon discouragingly familiar. The professor is merely echoing the man-in-the-street, and the mine-run of politicians, publicists and commentators. Such "thinking" is the despair of the teacher of elementary economics. If educated people can't or won't see that fixing a price below the market level inevitably creates a "shortage" (and one above it a "surplus") it is hard to believe in the usefulness of telling them anything whatever, in this field of discourse. (And "of course," in an open market there can be neither a shortage nor a surplus "at the price," while "absolutely," relative to need, there is *always* a shortage, of anything that is of economic concern—though sellers will find a surplus!) One asks what is the chance of securing consideration of the economic problems that really are problems. (The reference is only to Britain's "dollar-shortage," not to the complex of its economic difficulties; but in fact, most of the country's "terrible situation," of which we hear so much, is the result of inept governmental "planning," interfering with economic liberty, or of failure to take positive action where needful to preserve freedom.)

Most interesting of all is the "line" taken in Mr. Gordon's final paragraph. Such toplofty preaching of platitudinous profundities about the deeper-historical-forces and the higher-spiritual-values has exactly as much relevance to ordinary concrete economic issues as it would have to an outbreak of typhoid spread from an infected water supply. This sort of business from serious writers is meat and drink for the demagogue; and the most dangerous and subversive demagogues are the "honest" ones, those of pious intentions. Unfortunately (human nature being what it is) a free society requires intelligence, in the prosaic, "dismal-science" sense of literal objectivity and pertinence. Problems of means and ends are not solved by romancing about them, or moralizing, in whatever pretty or edifying phrases. Better let them alone, since bad policies are worse than none. It is a sad truth that one main enemy of sound economic action is precisely the deeper historical forces and higher spiritual values—as expounded by such journalists as Miss Ward and such social scientists as Mr. Gordon—together with the bulk of our sociologists, historians, etc., and "of course" the preachers and moralists and the literary intelligentsia. In short, practically everybody, except a few hold-over economists from the age that believed—if somewhat naïvely—in truth and freedom. A thinning rank, whose views no doubt are, as Mr. Gordon amiably says, "of little moment so long as everyone recognizes that the whole world is out of step except the libertarians"—and, with him and Miss Ward, elects to swim with the current. *That* is the meaning of "down," in relation to swimming, and Frank Graham did not need Mr. Gordon's tutoring

on the point; he merely chose to swim *against* the current. Foolishly? Perhaps. But he could not see either freedom or prosperity in passing laws and appointing policemen to keep people from acting in accord with their mutual and common interests—dismissing opponents by saying that *they* believe in original sin.

Apparently it *is* the direction of the current, for the visible future. As has often been observed, “progress” occurs in waves, recession alternating with advance; and economic thinking and policy are in a phase of deep recession at this time. After an epoch of venturing and achieving, we see a mania for security, and insistence on the right to consume regardless of production, in a world which just isn’t built that way. Until this phase passes, one who points out that any well-intentioned but palpably stupid policy will have results opposed to those foreseen or desired may expect to be classed as opposed to all remedial action. And this regardless, also, of all endeavor to find and point out remedies effective within the possibilities and not clearly worse than the disease. Truth, even simple arithmetic, and relevance, will seem immaterial. But, it was so for ages with respect to magic and witchcraft in medicine and dealings with the physical world. (One may doubt whether today, in any country, the total of what is done to “heal” actually does more good than harm.)

Let me repeat that I am not concerned with personalities; but the issue between Ward-Gordon and Graham is large and serious, and hard to discuss. I must speak plainly. What can a serious economist do but “fight back” when outsiders in high places use their persuasive talents to tell the world that in explicit discussion of economic policy it is unimportant how bad is the economic reasoning or recommendations, if only an author shows “an understanding of the moral foundations of western civilization”? Gordon does not specify; that might suggest issues! I must mention the fact that much of what passes current, even as “sacred” in this connection is a survival from the Dark Age in Europe; an age of despair, when men’s fundamental beliefs and morality were escapist, supernaturalist, millenarian, ascetic or supinely submissive, and obscurantist; when in particular the “right” use of wealth was to give it to the nearest pauper (to be dissipated) or, better, to some ecclesiastical outfit pretending to represent the pauper interest and ideal. Our civilization is based on antithetical values of freedom and progress through intelligence, with as much justice and humanitarianism as a complex organization of mere human beings can bear—and at worst far more than were practiced in the monastic age. Only if we are to return (in pretense) to an ethic of mystical or sentimental absolutes (“poverty, hunger and dirt”) in which no modern mind can really believe, do we have a choice between our “moral foundations” and the arithmetic of intelligent cooperation, as embodied in the principle of comparative advantage.

Broadening the subject slightly, Gordon’s commendation of *The West at Bay* as a good book is of a piece with the current “furor” for making “Great Books” the heart of liberal education. Like other simple formulas, this is not without merit, but raises rather than solves problems, notably where man and human relations and the social order are educational subject matter. If

our society is to be "free" in the minimal sense of not drifting rapidly into a brutal authoritarianism, it will be imperative for educators in this area to distinguish sharply between different and often conflicting species of excellence in literary composition. One sees no clear recognition of this fact, particularly in the propaganda centered on the Great-Books slogan. Mr. Gordon hardly refers to literary quality—quite as important as edifying morals and which, also sharing the emphasis on antiquity, conflicts widely and directly with "truth and relevance." Much effort, subtly directed, is needful to give the young (or the "adult") necessary historical background and a sense of culture continuity, without teaching *too* much that, however true or medicinal it may once have been, is now *too* false and pernicious for action, though it appeals strongly to our primitive emotions, including those we call our higher values.

FRANK H. KNIGHT*

* The author is professor of social sciences and philosophy at the University of Chicago.

Inflationary Effects of a Balanced Budget Under Full Employment

It has been shown by Haavelmo,¹ in an article entitled, "Multiplier Effects of a Balanced Budget," that an increase in government expenditures, financed by an equal increase in taxation, will increase the level of the gross national product by the same amount. It was shown furthermore, by Haberler² and others, that, if the tax is levied before the making of the additional expenditure, the effect on income, in the long run, will be the same. In the case where expenditures increase before taxes, the final level of income is reached almost immediately: in the case where taxes are raised first, and expenditures afterward, the final level of income is approached asymptotically over a period of time.

The purpose of this note is to show that under conditions of full employment the multiplier, which in Haavelmo's terminology is equal to one, will be substantially greater than one. But first we shall summarize his argument.

The formula for disposable income to the private sector of the economy is given by:

$$Y = W + D + I + R + TP + S_b - T_d,$$

where Y is disposable income including corporate savings; W is wage payments; D is dividends; I is interest payments to individuals; R is rent; TP is transfer payments; S_b is corporate savings; and T_d is direct taxes.

Assume that the consumption function is linear and identical for all individuals, so that there will be no effects from the redistribution of income that may result from the imposition of taxes and their expenditure. There will be no shift in the consumption function. If the government increases expenditures, thereby increasing the public's income, and immediately takes

¹ Trygve Haavelmo, "Multiplier Effects of a Balanced Budget," *Econometrica*, Vol. 13, 1945, pp. 311-18.

² Gottfried Haberler, "Multiplier Effects of a Balanced Budget, Some Monetary Implications of Mr. Haavelmo's Paper," *Econometrica*, Vol. 14, 1946, pp. 148-51.

away the additional income through taxes, the level of disposable income will remain unchanged. But gross national product will have increased by the amount of the increased expenditure.

The formula for the gross national product is as follows:

$$\text{GNP} = C + B + G + F,$$

where C is consumption expenditures; B is business expenditure on capital account; G is government expenditure; and F is net foreign investment. Since disposable income is unchanged, there is no reason for C, B, or F to have altered. The component G has increased, and the level of economic activity, measured by GNP, has increased correspondingly. The total demand for goods and services has risen. But for the multiplier to be one, we must make an additional explicit assumption. We must assume that there are unemployed resources of all kinds, and that, as income increases, there is no rise in the prices of important goods and services. There is no rise in the cost of living for the typical consumer. Once the level of full employment has been reached, any further increase in the level of government expenditure will lead to a bidding up of prices and a diversion of resource to the government through forced saving.

It is here that the multiplier becomes greater than one. Disposable income in money terms has remained unchanged, but *real* income has fallen. It is true, in general, that people do not reduce their consumption by the amount of the decline in their real income, that is, the marginal propensity to consume in real terms is less than unity. In other words, consumers resist the attempt of the government to divert resources away from consumption to government use. The rise in price level and GNP needed to obtain, say, a ten per cent reduction of real consumption must therefore be greater than ten per cent. Total income generating expenditures by the government and the private sectors of the economy combined will rise in money terms by more than the increase in spending by the government.

It is, moreover, a virtual certainty that the marginal propensity to consume in real terms is very small over short periods. When it is less than the average propensity, the average propensity must rise as real income falls. This takes place whenever the consumption function intersects the Y-axis and is not concave upwards.

Assuming that the real marginal propensity is normally less than the average propensity to consume, we find that *in money terms* each rise in the price level causes an upward shift in the consumption function. The proportion of disposable money income consumed increases for any given level of income. Each reduction in real income means a sliding backward along a consumption function measured in real terms; in money terms it means an upward shift of the function. Every rise in the price level, given the level of money income, results in an increase in dollar outlays for consumption.

Through the initial rise in consumption expenditures the amount of income generated and the price level will rise further. Each successive rise in the price level will cause a further upward shift of the propensity to consume,

which in its turn leads to more income-generating expenditures. The smaller is the marginal propensity to consume in real terms, the greater is the price rise necessary to restore equilibrium. An attempt by the government to maintain the higher level of expenditures in real terms, by carrying through projects no matter what the money cost, and by raising the pay of its employees in pace with the rising price level, will, of course aggravate the rise in prices and money incomes. If the credit system is sufficiently elastic, an inflationary spiral may result. Each successive reduction in real income is counteracted by additional income-generating expenditures which defeat the attempt to take away goods and services from consumers. This is true, even though tax collections increase *pari passu* with expenditures—the rates could even be reduced, because of the progressive elements in the tax structure.

In order to increase the level of government activity while avoiding the inflationary effects that would result, it is necessary to increase tax receipts by more than twice the increase of expenditures. Let us trace step by step why this is true: An increased outlay by the government with a balanced budget requires an addition to tax receipts by the same amount. But this would leave disposable income unchanged, and, as shown above, we would get an increase in consumption expenditures because real income has fallen. In order to avoid inflation we must reduce consumption expenditures by as much as government expenditures increase. To do this, it is necessary to raise taxes by at least as much again as government expenditures.

In addition, we have seen that the marginal propensity to consume in real terms is less than one and is virtually certain to be less than the average propensity. This means that consumption outlays in money terms will never fall by as much as disposable income. We must, therefore, take away more income than the desired reduction in consumption spending, and this means increasing taxes by more than twice as much as the planned increase in government expenditures. In other words, we must increase the fiscal surplus (or reduce the deficit) by more than the increased expenditures. It is only in this way that an expansion of government activity can occur under full-employment conditions without causing an inflation of prices and incomes.

In the light of this analysis, it might be concluded that the federal budget proposed for the fiscal year 1949-50 would have inflationary tendencies, providing that we are still at the full-employment level.

FRANZ GEHRELS*

*The author, instructor in economics at Stanford University, is indebted to Professor Moses Abramovitz for help in clarifying the exposition in this note.

Federal Reserve Policy and Federal Debt: a Comment

Mr. Chandler's analysis of Federal Reserve policy and federal debt in this *Review*¹ rues the fact that the Federal Reserve, by its policy of supporting government securities in the open market, has deprived itself of its traditional

¹ Cf. Chandler, L. V., Federal Reserve Policy and Federal Debt, *Am. Econ. Rev.*, Vol. XXXIX, No. 2 (Mar., 1949), pp. 405-29.

control over the supply of money. He argues that the highly elastic money supply resulting from this policy is not simply inflationary, but, in addition, "cannot fail to be an unstabilizing factor in an economy in which expectations concerning the marginal efficiency of capital fluctuate widely relative to the propensity to save."

The purpose of my remarks is not to differ with Mr. Chandler over the elasticity given to the supply of money by the commitment to support government bonds. Rather, I would suggest that the support policy is a necessary evil—to the extent that it is an evil—and that the difficulties it aggravates may be better handled through nonmonetary measures.

First, as to the justification of the support policy. Mr. Chandler is not convinced by the argument that pegging is necessary to protect holders of government securities against capital losses. He believes that these holders may not necessarily deserve such protection. Whether or not there is any moral basis for this protection, the fact remains that all financial institutions and many individuals maintain a very considerable proportion of their portfolios in the form of marketable government securities.

These governments were purchased to be used as a liquid secondary reserve (during the war period and up to the middle of 1947, even longer-term bonds were used for this purpose) and as the safest investment available. Regardless of any moral obligations to keep these securities at par or above, one cannot but wonder what the result would be if all investors showed a substantial book loss on their safest and most liquid asset. Indeed, with the widespread ownership and important rôle of governments in investment portfolios, the panic might well be far greater than it was after World War I, and could not help but have broad repercussions extending beyond the particular investors involved.

Furthermore, since sale of these securities would transform a book loss into a real loss, the liquidity of these investors and institutions would be seriously impaired. The effective liquidity of government securities would vanish. This does not raise an academic issue. The assurance of shiftability which government securities provide to a large portion of banking assets is a protection of prime importance for the ordinary borrower or privately marketed security. In the past, monetary stringency was always associated with a debilitating squeeze on private borrowers, a factor which greatly intensified the crisis and helped to push us into a cumulative downward movement. Under present circumstances, the first reaction in the event of stringency would be to unload governments on the Federal Reserve, and private borrowers would not have undue pressure brought upon them.

Mr. Chandler argues that investors could be protected anyway if the Treasury refunded outstanding issues at higher coupon rates; the new bonds would be quoted at par in line with the tighter monetary conditions which the Federal Reserve would promote. Does Mr. Chandler really mean to say that nearly \$160 billion of marketable government debt could be refunded in one fell swoop with higher coupons without throwing the entire securities market into complete chaos? And how does the Treasury choose the correct moment for this unprecedented operation, as a practical matter? Finally, even if the

operation could be proven practical, the Treasury cannot legally call outstanding bonds until their call dates, which go out to 1967 on the longest term bonds; and a process of market repurchase by the Treasury would raise bond prices far beyond anything Mr. Chandler has criticized.

Mr. Chandler mentions that the proponents of the support program believe that a break below par in marketable bond prices might induce wholesale redemptions of savings bonds, in effect a demand obligation of the Treasury. However, he only mentions this argument, and makes no effort to break it down in the course of his article. Yet this danger is a very real one. The average individual who holds savings bonds would not understand that a 3 per cent yield on the marketable 2½s of 1967-72, for example, would still leave the 2.9 per cent yield on his ten year Series E Bond in a favored position. He would only see that governments were selling at less than 100, would fear that the credit of the government and the financial soundness of his bank were impugned, and would rush to the bank to cash his savings bonds and perhaps his bank accounts as well. A refunding problem of first magnitude in an unfriendly market would be forced upon the Treasury; substantial Federal Reserve support would doubtless be necessary, and the result could be far more inflationary than anything Mr. Chandler has seen so far.

He goes on to argue, however, that, even though the effects of a drop in government bond prices might not be wholly salutary, the disadvantages would be greatly outweighed by the anti-inflationary effects of a tighter money supply and higher interest rates. In his opinion, some restriction of private investment was necessary after the war, in view of the high propensity to consume and heavy government expenditures. Granting his premise that such restriction would have been desirable, one must nevertheless question the efficacy of the blunt, broadside effect of credit restriction in achieving the objective with a minimum of disturbance. This problem could have been solved, if necessary, with greater efficiency by the retention of non-monetary wartime controls over the allocation and distribution of materials, so that high priority, essential projects could have been carried out, with the race tracks and swanky apartment houses postponed for a later date. Credit restriction is anti-inflationary, of course, but its use on a substantial scale after the war would have been completely non-selective and would not necessarily have curtailed private investment in the most desirable manner.

Mr. Chandler concedes that some support by the Federal Reserve may be essential and even desirable. However, he believes that the objective of the central bank should be "orderly adjustments of security prices and yields . . . in order to establish higher yields but still prevent 'disorderly' movements." This is far easier said than done, as the actual events themselves can prove.

The heaviest periods of Federal Reserve support were from November 1947 to February 1948 and from July 1948 to November 1948. In both of these periods, and particularly the latter, the amount of support required was greatly enhanced by panic selling, provoked by fear of further price declines. In the seven-week period from November 5 to December 24, 1947, the Federal Reserve made net purchases of bonds of \$1,674 million. On the last day of that

period, the pegs were dropped sharply, and this induced heavy panic selling by holders who feared that additional reductions in the pegs were probable. As a result, net Federal Reserve bond purchases in the following three weeks were only \$37 million less than they had been in the preceding seven weeks.

Heavy selling during the fall of 1948 was also stimulated by the discussion raging in financial circles over the possibility that the pegs might be removed altogether; immediately after the election the selling dried up, when investors decided that the returning administration would favor retention of the pegs.

The government bond market is, in fact, too sensitive for "orderly adjustments" to be feasible over any significant range. As the pegs would gradually be lowered, the Federal Reserve would find itself confronted with ever heavier selling pressure at each step. Such an "adjustment" could hardly merit the adjective "orderly." Indeed, the inflationary effects of such large-scale Federal Reserve open-market buying would be much greater than if the authorities explicitly promised that the 2½ per cent long-term anchor would be protected.

The easing of inflationary pressures in 1949 has made the Battle of the Pegs a somewhat academic issue for the present. Its lessons, however, should be relevant for the future. I think we must have learned that monetary policy is too blunt an instrument by itself for effectively controlling inflation in a period of widespread shortages of goods; we have devised more effective and selective non-monetary measures which can do the trick better, as the wartime experience suggests. One cannot, therefore, easily ignore the unsettling effects of a money squeeze which sharply depresses government security prices.

PETER L. BERNSTEIN*

*The author is the economist of the Modern Industrial Bank, New York City.

Gold and International Equilibrium

Metzler's excellent chapter on international trade theory in *A Survey of Contemporary Economics* calls the "modern" theory of the gold standard incomplete.¹ By this he means that the reactions it describes probably are insufficient to restore an equilibrium once it has been disturbed. If country A increases its imports from B, a deficit occurs in A's balance of payments. Irrespective of whether the deficit is initially financed by flows of gold or short-term capital, under the modern theory income and employment expand in B's export industries. Secondary spending of these incomes stimulates output of consumption goods in B, which, in turn, stimulates investment. As incomes rise in B, so do imports. The initial rise in exports thus is partially or wholly offset. However, "the conclusion of most economists seems to be that, except under unusual conditions, the adjustment of a country's balance of payments by means of income movements is likely to be incomplete."² Therefore, "the new explanation . . . normally accounts for only a part of

¹Lloyd A. Metzler, "The Theory of International Trade," in Howard S. Ellis, ed., *A Survey of Contemporary Economics*, (Philadelphia, 1948), Chap. 6.

²*Ibid.*, pp. 219-20.

the adjustment and thus constitutes a theory of disequilibrium as well as a theory of equilibrium."³

Metzler's account implies, albeit in a backhanded way, that the classical role of gold inflows in increasing bank reserves, lowering interest rates, and increasing loans and prices is almost completely omitted from the modern theory. Thus he says, "Perhaps the most important single feature of the new concept is its comparative independence from banking policy."⁴ The income effects continue to perform their equilibrating rôle even though the central bank offsets the gold flow. "Unless domestic investment were highly sensitive to a change in interest rates, . . . such action would not stop the rise of employment which was initiated in the export trades, and the adjusting process would proceed as before."⁵ This almost complete rejection of the classical mechanism apparently rests on two considerations: (1) belief that investment is insensitive to interest rates; and (2) belief that international demand is inelastic to price changes in the short run.

Since the classical mechanism is rejected and income effects are incomplete, the way is open (though Metzler does not say so) for a chronic shortage of one currency such as dollars even under gold standard conditions. This raises an interesting question: why was the gold standard so successful prior to World War I? Is there not something more to the gold standard mechanism than the modern theory describes, something which in the absence of rigidities produces either complete equilibrium or at least an oscillation about the equilibrium position?

In my opinion, a part of the classical mechanism must be retained in gold standard theory. While I share the conviction that in the short run investment is insensitive to interest rates and demand is inelastic with respect to prices, the long run is a different matter. An addition to gold reserves in the pre-1914 era may not have increased investment and prices immediately, but subsequent business cycle expansions resulted in greater increases of bank deposits and higher money incomes and prices than would otherwise have been the case.⁶ In the nineteenth century, business booms, at least in the United States, almost invariably resulted in money stringency, indicative that expansion of credit by the banks was limited only by their reserves.⁷

³ *Ibid.*, p. 220.

⁴ *Ibid.*, p. 216.

⁵ *Ibid.*, p. 216.

⁶ It is conceivable that in the United States this mechanism may have partly worked itself out as an income effect. Immigration tended to increase in prosperity, diminish in depression. An accrual of gold may have made for longer prosperities (on this point see my article, "The Long-Wave Depression, 1873-97," *Rev. Econ. and Statistics*, Vol. XXXI, No. 1 [Feb., 1949], pp. 69-73) and therefore more rapid immigration. Hence, the rise in money incomes may have represented partly an increase in real incomes; and the increase in real incomes would have expanded imports irrespective of price changes. If this is so, my attempt at partial defense of the classical mechanism as opposed to income effects does not go as far as the text above indicates.

⁷ The situation now may be different. At the time of writing, the postwar inflation appears to have run its course even though excess bank reserves in the United States are in the neighborhood of a billion dollars. Hence, gold flows into the United States even in

As Metzler points out, evidence of inelasticity of international demand is entirely short-run. Probably in the long run consumers and producers adapt themselves to the price changes, so that demand is more elastic. Therefore, the inflow of gold in pre-1914 times eventually increased imports and decreased exports in the classical manner. Although this part of the mechanism would usually be ineffective in the short run, in the long run it served to prevent a chronic disequilibrium in which one country tended to gain the world's gold supply.

It follows that neutralization of gold flows by central banks has not entirely lost its significance as a blow to the operation of the gold standard. It is true, as Metzler's quotation from Whale indicates, that the importance of "observing the rules of the game" has declined in our estimation as a result of the new theory.⁸ But the dilemma faced by monetary authorities under the gold standard between the requirements of internal and external equilibrium was a real one.

In the words of Metzler, "the pendulum has now swung too far in the anti-classical direction."⁹ The classical theory of gold flows and price changes must not be abandoned as of little importance.

RENDIGS FELS*

the long run may not affect prices and money incomes appreciably. Excess reserves at the end of a boom are not decisive evidence, however; but in any event offsetting operations by the central bank would prevent gold flows from performing their equilibrating function.

⁸ *Op. cit.*, p. 216.

⁹ *Ibid.*, p. 254.

* The author is assistant professor of economics at Vanderbilt University.

Planned Economy in Norway: Comment

While Dr. L. R. Klein¹ presents a clear and interesting outline of the system of "national budgeting" in Norway, at least two of his views regarding the general implications of the Norwegian experiment appear to be questionable.

At one point it is stated, for example, that: "one of the most evident and most striking features of the Norwegian economy is its stability since 1945."² When speaking of stability, Klein is primarily concerned about price stability and the protection of the real income of workers. Average hourly real wages in industry rose about 20 per cent between 1940 and 1947.³ Since it is highly probable that average productivity fell during this period,⁴ it is evident that a size-

¹ "Planned Economy in Norway," *Am. Econ. Rev.*, Vol. XXXVIII, No. 5 (Dec., 1948), pp. 795-814.

² *Ibid.*, p. 810.

³ *Statistisk—Økonomisk oversikt over året 1947*, Norges offisielle statistikk, X—143 (Utgitt av Statistisk Sentralbyrå, Oslo, 1948). For information on hourly wages, p. 40; and retail prices, p. 98. See also, International Monetary Fund, *International Financial Statistics*, May, 1949.

⁴ The Economic Commission for Europe, *Economic Survey of Europe in 1948*, U.N. pub. (Geneva, 1949), Table 4, p. 7. Average output per man employed during 1947 was indicated as 85 per cent of the 1938 level. No man-hour figures appear to be available.

able "inflationary gap" has developed within the economy. The low level of postwar interest rates and the very high level of investments have tended to sustain this gap.⁵

The gap has undoubtedly helped to check the expansion of export volume, which has remained at about 82 per cent of prewar during 1947 and 1948, when industrial production was 15 to 25 per cent above prewar levels, and has thereby been fundamental to the magnitude of disequilibrium in the balance of payments.⁶ The high volume of imports necessary to a realization of the ambitious investment program has been the other decisive factor. Finally, a deterioration of the terms of trade with regard to freight income has also been of importance. Postwar deficits in the current balance of payments have averaged nearly 1 billion kroner (\$200 million dollars) since 1946⁷; about half of this annual deficit could be attributed to the low volume of postwar exports.⁸

Thus, granting that price stability⁹ has been attained and that an increase in real wages¹⁰ has been maintained, it is not at all clear that a planned economy such as Norway's does not substitute one form of instability (that of the balance of payments) for another form of instability (that of domestic prices). Instability in the balance of payments, however, may have far more serious implications for a small country than does domestic price instability. In any case, one should not be deceived into thinking that once the magic wand of economic planning is waved, the problem of economic stability somehow disappears.

In support of this view, let me first quote certain conclusions concerning economic development in Norway during 1947, which are contained in the "Statistical Economic Survey" issued in connection with the government budget during January, 1948:¹¹

There is a continuing deficit of considerable size in the national budget which

⁵ The costs of German occupation were the important prime source of the gap. Price subsidies have amounted to about a quarter of current budgetary expenditures. While gross domestic investments have amounted to about 35% of G.N.P., the long term rate of interest was lowered from 3.4% to 2.5% in connection with government debt conversion during 1946. The low rate of 2.5% has been sustained.

⁶ *Statistik—Økonomisk oversikt over året 1948* (Oslo, 1949). Reference to source of statistics given.

⁷ *Økonomisk Revy*, Norsk Bankforening, No. 2, 1949, p. 3.

⁸ *Ceteris paribus*, the current deficit would have been about \$80 million a year less had export volume attained a prewar level during 1947 and 1948. Although a deficit is normal for Norway in view of postwar reconstruction requirements, it appears that direct controls and repressed inflation have diverted output from export to the home market. Export volume has, therefore, lagged far behind the growth of national product, relative to prewar, though a roughly parallel development is vital to long-run international stability and the sustenance of a high level of output.

⁹ Since it was attained by means of price control, it may only imply price rigidity.

¹⁰ *Editor's note*—A Norwegian critic of Klien, whose communication could not be published, queries the reality of the increase in real wages due to the non-availability of many consumer's goods.

¹¹ *Statistik—Økonomisk oversikt over året 1947*, *op. cit.*, pp. 94-95. Translated by the writer. A budget surplus was developed during 1948.

together with an increase in lending and the large nominal income receipts of the population has led to the growth of an inflationary gap. . . .

It is important to be aware of the fact that we, despite the general production advance since the end of the war, can not be considered to be enjoying a stable period with a uniform prosperity. The economic situation in Norway today is to a high degree unstable. Since production in 1947 did not lie appreciably above the prewar level, this higher level of production could only be sustained by a considerable import balance of trade. This import balance . . . has in large part been financed with the country's exchange reserves and by borrowing. . . .

At the conclusion of 1947 one is faced with the situation that an appreciable portion of the disposable exchange reserves have been utilized at the same time that authorities had exhausted most possibilities of obtaining additional credit. One has thereby arrived at a very serious foreign exchange situation. . . . In case further credits can not be obtained from abroad, it might be necessary to bring about a more drastic reduction of imports than that effected in connection with the reorganization of exchange policy in September . . . but should the situation arise in which it becomes necessary to reduce the supply of imported raw materials further, it may be difficult to prevent the growth of unemployment in industry.

The view stated in this official publication is quite different from that of Klein. The situation is viewed as essentially unstable rather than stable. Serious attention is paid to the difficult foreign exchange situation and the implications for domestic employment of the necessity further to reduce imports.¹² Klein found that the 1947 import surplus "in no way caused an economic crisis."¹³ To him the fault was administrative and the result of forecasting errors; it could be rectified in the future.¹⁴ The subtle underlying factor overlooked by Klein is that while no economic crisis may have as yet arisen, it is only because Norway has been able to expend exchange reserves and obtain foreign loans. Once foreign aid, credit resources, and foreign exchange reserves are exhausted, the income received from Norwegian exports and shipping will be an important factor in determining the level of national income.

The situation in Norway, and for somewhat similar reasons in Sweden also, is, at least potentially, quite unstable.¹⁵ The question therefore remains, and a most important question it is indeed with regard to the ultimate success of E.R.P., to what extent small democratic countries such as Sweden and Norway, whose standard of living is highly dependent on foreign trade, can achieve a volume of export trade by means of direct controls (prices, interest rates and the allocation of supply being subject to control in both countries) that is compatible with equilibrium in the balance of payments at a level of

¹² The volume of imports is naturally of far greater significance to the level of production and real national income of a small country, than of a large country with adequate natural resources of all types.

¹³ "Planned Economy in Norway," *op. cit.*, p. 806.

¹⁴ *Ibid.*, pp. 806, 807.

¹⁵ It should be pointed out that during 1948 and 1949 a large portion of the international deficits of Sweden and Norway are being covered by E.C.A. assistance. Both countries have drawn heavily in the past on their gold and foreign exchange reserves to finance their international deficits. While Sweden did not suffer a severe impairment of her capital equipment during the war, as Norway did, she has also experienced repressed inflation and an abnormally low volume of exports in relation to imports and real national income.

imports that will permit retention of present full employment levels of activity and a normal growth of productivity. Can these countries substitute direct controls for a free-price system and still bring about international adjustments with sufficient rapidity to meet sudden changes in the international outlook? Will not the persistence of repressed inflation (along with the controls necessary to repress inflation) interfere with the proper allocation of resources in this connection, prevent adequate price flexibility, and inject a high degree of inelasticity in the export supply curve? The low volume of postwar export in both countries¹⁶ raises serious doubts, especially in view of the fact that international demand conditions have in general been very favorable for both countries since the end of the war. In addition, how will these countries meet the threat of increasing international price competition, especially in dollar markets?¹⁷ The critical nature of these problems has been and continues to be disguised by the prevalence of foreign disinvestment, loans, and American aid.

Another general conclusion drawn by Klein was that the clause of the Bretton Woods Agreements requiring the abolition of import and exchange controls by 1952 was particularly unsatisfactory.¹⁸ When considering Norway he says:¹⁹ "Either the Bretton Woods Agreements must be modified (or ignored) or some round-about method adopted to circumvent the Agreements. One method would be to nationalize all foreign trade."²⁰ It appears to the writer that Dr. Klein has failed to prove his case; he has merely intimated what is self-evident, that the provision is incompatible with the retention of the present system of direct controls in Norway. But is not this essentially begging the issue? The writer has pointed out that the economic stability attributed to Norway by Klein may be more apparent than real, that in fact it has been sustained by a high volume of capital imports. Economic stability, if it is to be given a dynamic significance, must in the long run be measured in terms of the growth of productivity and internal adaptiveness to external change, as well as in terms of the level of employment and real wage income. The Norwegian economy has still to prove itself with regard to the first mentioned factors; a small country could suffer considerably in a world rapidly returning to price competition, if it lacked stability so defined.

¹⁶ During 1948 industrial production was 143% and 125%, export volume 79% and 82%, of the prewar levels in Sweden and Norway respectively. Prewar = 1938. Source: International Monetary Fund, *International Financial Statistics*.

¹⁷ For the above mentioned reasons, among others, one must be skeptical as to how much benefit can be derived from currency devaluation in a controlled economy, where repressed inflation leads to an excessive domestic use of domestic output. The threat of nationwide wage increases to offset resulting increases in living costs (thereby threatening domestic price and wage stabilization) and the restrictive provisions of bilateral trade agreements must also be considered. The issue, however, is too involved to be discussed within the limited scope of this note.

¹⁸ "Planned Economy in Norway," *op. cit.*, p. 814.

¹⁹ *Ibid.*

²⁰ According to Professor Wilhelm Keilhau of Oslo, Norway, the greatest success in postwar reconstruction has been attained with the mercantile marine, the only sector where private initiative was given a free hand. See "Main Trends in Norway's Economy," *Lloyds Bank Review* (July 1948), p. 31.

The writer suggests that, because of the flexibility of a free-price economy and the possibilities for increased productivity permitted by specialization under free trade, such small nations may have an even greater stake than their larger neighbors in a return to free, multilateral trade.²¹ While the level of home demand is of decisive importance (and the volume of foreign trade of secondary significance) to a large country in maintaining full employment and a high standard of living, it is clear that to a small country, lacking many essential resources, the volume and composition of foreign trade are also of primary importance, regardless of the structure of the economic system.

Such small countries as Norway and Sweden may have found a temporary solution to the "classical" problem of maintaining an adequate level of effective demand at home—though the solution has involved the existence of repressed inflation—but have they found a solution to the problem of obtaining an adequate volume of supply without resorting to capital import or foreign disinvestment? This latter aspect is also fundamental to the maintenance of high living standards and full-employment levels of activity.

When judging the stability problem of a small country, international considerations are as fundamental as domestic. In fact the two are virtually inseparable.

RALPH E. HOLBEN*

²¹ The interwar years provide ample evidence of the competitive disadvantage suffered by small nations which engaged extensively in bilateral trade.

* The author, who is on the staff of the Economic Cooperation Administration, is expressing personal views and not those of the organization with which he is associated.

The Least Cost Point: Reply

In the December issue of the *Review* Professor Eiteman attempts to rebut my criticisms of his earlier article attacking the validity of marginal analysis.¹ He has indicated precisely what he meant by capacity and has in some respects clarified his position, but unfortunately he has raised more problems than he has solved. These problems are so numerous that a complete examination of them would take more space than their importance warrants. I can, therefore, merely outline briefly the more basic difficulties that his answer presents.

1. He has altered his original thesis to read: Where the least cost point falls at capacity output, "marginal cost curves will no longer intersect marginal revenue curves (1) when average revenue curves are horizontal or (2) when average revenue curves are high and almost horizontal" (p. 900)—that is, under pure competition or almost pure competition.² This elimination of anything remotely resembling monopoly seriously limits the applicability of his theory, even if it were otherwise correct. In fact, he later (p. 903) tacitly assumes monopolistic competition (or something resembling it), in contradiction of his own original thesis.

¹ Wilford J. Eiteman, "The Least Cost Point, Capacity, and Marginal Analysis: A Rejoinder," *Am. Econ. Rev.*, Vol. XXXVIII, No. 5 (Dec., 1948), pp. 899-904.

² Even so, the statement is not necessarily true, since, to cite only one instance, costs may also be "high."

2. It is not "difficult to deal with a timeless-rate of production" (p. 902); it is impossible. "Rate" means "ratio"—the relation between two quantities, which in this connection are units of output and units of time. To speak in terms of "hourly output" obviously does not eliminate the time concept.

3. Professor Eiteman believes that by using the time unit of an hour he has eliminated the variations occurring in working periods when the day, week, or month is used. This is contrary to fact. He admits that the warming-up hour (is it an hour?) is different, but ignores the other variations which almost any study of hourly output will show—a rise in output during this warming up, followed by a continuous drop to the end of the day (with a reversal of trend for a short time after the lunch period, if any).

4. His final definition for capacity is "the maximum hourly output possible under normal circumstances" (p. 902).³ In spite of this concept of capacity as output under *normal* circumstances, his next sentence states flatly that: "So defined, beyond-capacity output becomes impossible" (p. 902). That is, there is no such thing as abnormal conditions. His whole thesis, he admits, hinges on this untenable assumption.

5. By the use of an hourly output concept Professor Eiteman has vitiated his original argument in two ways: (a) He has invalidated his objections against ordinary marginal analysis, since he is not talking about what is generally considered capacity; he is criticizing the use by marginal economists of a concept which these economists did not have in mind,⁴ (b) More important, he has passed out of the world of reality into the realm of fancy, for surely no businessman sits down to decide whether he will produce 700 or 800 cans of soup between nine and ten o'clock this morning (by marginal analysis or any other), but rather that he will produce so many cans this week (or month, or quarter).⁵ If the curves refer to hourly output, we certainly agree that "businessmen do not construct marginal revenue and marginal cost curves nor do they operate at a scale of operation that such curves would indicate if they were drawn" (p. 903). The situation is different if the time unit is a week or more.⁶

6. In the course of his examples Professor Eiteman uses the illustration of a least-cost point at "85 per cent of capacity" (p. 903). If he considers this usual, it is an insignificant quibble to complain of Bowman and Bach putting this point at 73 per cent. His whole argument then disappears.

7. In his further example explaining what he considers to be the actual decisions of businessmen, Professor Eiteman's only reference to price is to

³ This definition differs from the one I suggested only by the designation of the period as "hourly." I did not specify any particular time interval. I had in mind a period of a week, but the argument would apply equally to a month or any other reasonable period. With modifications it would apply also to the hourly concept.

⁴ To use Professor Eiteman's original example, the graph which he cites from Bowman and Bach refers to output per *month* (*Economic Analysis and Public Policy* [New York, Prentice-Hall, 1943], p. 123).

⁵ Professor Eiteman himself is forced to accept this longer time interval when he comes to his illustration (p. 903).

⁶ The longer the time interval, the more likely the businessman is to use some sort of marginal analysis in determining his production.

accept without question "the price printed in catalogs" (p. 903). How was this price determined?⁷ More particularly, if, under his example, the small quantity currently demanded at this price forces a drop in production and a consequent rise in average (labor) cost from 70 cents per unit (which would be possible if 48,000 units per week were sold) to 84 cents per unit,⁸ would not the producer at least consider the possibility of whether a price reduction would be preferable to a drop in quantity produced?⁹ This inability to explain price determinations is the central weakness of Professor Eiteman's inventory analysis, which necessarily must assume that price is given to start with, and (apparently) cannot be altered by the producer.

WALTER W. HAINES*

⁷ We might assume (*cf.* point [1] above) that it was set by pure competition in the market, but this is obviously not so, for the producer in the example can sell only 28,000 units per week at this price, not any amount. This then must be a situation of monopolistic competition or some other example of administered prices.

⁸ If by "average cost" Professor Eiteman means labor cost per unit of product, he has lost two zeros somewhere: the average cost should be 0.7 cents and 0.84 cents respectively. This mathematical error, however, does not effect the argument in any way, and I have used his figures.

⁹ It may be well that the price cannot be changed over short periods of time, as, for instance, between catalog printings, and in this case the producer may merely adjust his production to the quantity demanded at this price for the time being. But if conditions change significantly, he will certainly consider changing the price in the next catalog, and the new price will be determined, at least roughly, by the marginal analysis.

*The author is associate professor of economics in University College, New York University.

Economic Studies by the Joint Committee on the Economic Report*

The Joint Committee on the Economic Report, under a supplemental appropriation authorized by Senate Concurrent Resolution 26, is currently conducting studies in the fields of investment; monetary, credit, and fiscal policies; low-income families; and unemployment. All four studies were begun early in the summer and the subcommittees making them contemplate issuing one or more reports before December 31, the date set by the Resolution for the completion of the work.

The study of investment is directed toward an examination of the causes and cures of the variability of private investment, with emphasis on the relationship of this variability to over-all economic stability. In general, the subcommittee will seek through hearings and staff studies to find the factors which influence and determine business decisions to invest or not to invest. They will also go into the forms of investment contracts, *i.e.*, the debt-equity problem, to the extent it affects the flow of savings into investment; and the functions of intermediary institutions, such as insurance companies, investment companies, trusts, etc., in making direct investments or generating added investment.

The monetary, credit, and fiscal policies study will attempt to provide the

*The staff director of the Joint Committee is T. J. Kreps, the associate director G. W. Ensley. The address of the Committee is Senate Office Building, Washington, D.C.

basis of a better understanding and clarification of policies which are the most conducive to the maintenance of high levels of employment and production and of relatively stable price levels. The subcommittee will review the objectives of past monetary, credit, and fiscal policies and will be particularly concerned with the attention given in formulating these policies to the behavior of individual prices, to interest costs of the federal debt, to the prices of government securities, to the state of employment, to the rate of investment, to the balancing of the federal budget, to speculation in commodity and security markets, and to the balance of international payments. The study will cover the present instruments of control over monetary and credit conditions which are possessed by the various government agencies, including the Federal Reserve, the Treasury, the Federal Deposit Insurance Corporation, and the other federal agencies that make and guarantee loans and insure deposit and savings accounts; how these powers have developed and how they have been used; how effective the control instruments are individually; how effective they are collectively when used in such a way as to supplement each other; what the limits on their effectiveness are and the desirability of their use; and how effective the voluntary private programs are for controlling the supply and cost of credit. The monetary, credit, and fiscal policies subcommittee has already had presented to it two statements prepared by a group of outstanding economists who met September 16-18 at Princeton University to consider the fiscal aspects of the problem.¹ Additional studies are being made and hearings have been held on the monetary and credit phases of the study.

The subcommittee study on unemployment will be concerned with the causes of general unemployment and the kinds of remedies that can be applied. An initial study has been issued by the subcommittee showing the current status of employment and unemployment. It is planned that this report will be followed by another interim document to be issued in conjunction with the low-income families study which will summarize the most important federal, state, and local programs dealing with these subjects. An important part of the final study will be to develop a better general understanding of the problem of unemployment, the significance of the figures measuring the problem, and a general testing of the validity of existing information.

The study of low-income families arises from the interest in the relationship of the status of these low-income families to general economic conditions and how improvements in their status may help the economic health of the nation. The study, working within the limits of existing data on income distribution, will attempt to answer three broad questions: (1) What are the circumstances under which lower income families live? (2) What is the effect of the low production and low purchasing power of these families on the economy as a whole? (3) What can be done to increase the production and earning capacity of these families, thus making for a more prosperous national economy?

¹ See page 1263 this *Review*.

BOOK REVIEWS

Economic Theory; General Economics

The Economics of John Maynard Keynes. By DUDLEY DILLARD. (New York: Prentice-Hall. 1948. Pp. xv, 364. \$3.75.)

Dudley Dillard, in his recent volume on Keynes, has pointed out in the preface that the *General Theory of Employment, Interest and Money* is not very intelligible to the undergraduate and general reader. It can safely be said that the author has remedied this lack of communication by producing a competent and thorough text for elementary students. It is particularly suitable for students because it avoids the major pitfalls and false problems that have plagued so many of the post-1936 discussions about Keynes' theories, especially those debates of literary economics.

In the preface, Dillard also explains that he has set out for himself the task of presenting an exposition of the "economics of Keynes rather than Keynesian economics." This narrow objective has, unfortunately, led him into some vulgarisms that could have been avoided by more sophisticated criticism and extension of the ideas of the master.

The reviewer has read Dillard's other works in Keynesian economics with great reward. The pieces on the relationships among Proudhon, Gesell, and Keynes were, in many ways, edifying. The author had already established himself as a leading student of Keynesian economics when he turned to the volume under review. It is only to be regretted that he did not continue more of the original scientific research that characterized his earlier works.

The author summarizes the *General Theory* and then discusses the basic concepts and properties of the system in greater detail. He defines terms; discusses consumption (multiplier), investment (the marginal efficiency of capital), interest and money (liquidity preference), interspersed with a little fiscal policy doctrine; analyzes the rôles of money wages and prices in the system; treats the problem of inflation; and finishes the discussion of the *General Theory* with a section on business cycles and international economics. Actually, the inflation and international problems fall outside the most narrow scope of the *General Theory*, as such. Other writings of Keynes are brought to bear on these two subjects. There is a final chapter on "The Development of Keynes' Thought and the Social Philosophy toward Which It Leads." Much of the material of this concluding chapter comes from his already published article on "The Pragmatic Bases of Keynes' Political Economy" (*Journal of Economic History*, November, 1946). There is also an extensive bibliography of Keynes' writings at the close of the volume.

Since Dillard has elected to follow the *General Theory* in a very orthodox

fashion, he includes many of those digressions that were not always essential to Keynes' main point. He has a splendid discussion of the concept of *user cost* (p. 68). The close adherence to the *General Theory* has led Dillard to over-emphasize the importance of the theories of money and interest in relation to the problem of the determination of the level of employment. He makes much of the fact that Keynes really married the *monetary* and *real* aspects of economic life. While the reviewer is mainly impressed by Keynes' general theory of employment, Dillard is plainly more impressed by Keynes' general theory of employment, *interest and money* (italics are Dillard's). The reviewer definitely believes that one can go much more directly to the heart of problems with an analysis based on something like Frisch's time-honored distinction between the real economy and the money economy. In this analysis, the real economy clearly comes first, with the monetary aspects as refinements.

When Dillard comes to problems of international economics, he sets out from the well-known analyses of export and import multipliers. Within this framework, it is always good (employment-creating) to export and always bad (unemployment-creating) to import. How general can such a conclusion be? For economies which are largely self sufficient or for which foreign trade is not very important, this may be a fruitful approach, but for those economies which must import raw materials and other producer goods, it is absolutely misleading. The latter have learned, well enough, that it is good (employment-creating) to import. In an international free-market system, all effects can be accounted for by introducing the terms of trade in a proper way. Import and export functions should be written with both relative prices and incomes as variables. Although it is fashionable Keynesian theory to let relative prices "wash out" of the equation system, the truly sophisticated Keynesian will recognize that foreign and domestic relative prices actually do not "wash out" and play a nontrivial rôle in a complete analysis of international propagation of economic fluctuations. One ought to be even more fundamental in the theoretical construction and work with a model that will survive price, exchange, import, and export controls. This can be done by introducing imports of raw materials and producer goods as factors of production in the technological relationships of the system. Then some quite different import multipliers will be obtained for a sizeable portion of the world.

The chapter on "War and Postwar Inflation" deviates from the teachings of the *General Theory* only by shifting over to *How to Pay for War*. In many ways, the inflation discussion is the least satisfactory of the whole book. It takes the line of delicate fiscal adjustments to wipe out the inflationary gap, with direct controls like price stops and rationing merely superimposed upon the more basic fiscal structure. This is, of course, in the Keynesian tradition of *How to Pay for the War*, but the reviewer would be inclined to reverse the order of importance of anti-inflation instruments. Price stops, priorities, rationing, and other direct controls really get the job done with a great deal of speed and flexibility, aided and abetted by fiscal policy. Dillard's interpretation of the facts of the recent U.S. inflationary experience is at variance with that of the reviewer on this point. The chapter in question is based too

heavily on U.S. experience, and his analysis might not stand up too well against the facts on Western European postwar inflation.

In the space of a short review one cannot go into all matters of criticism in great detail, but there are some specific points in the text which should be singled out for prospective readers. In transforming from income to employment (p. 35), the problem of prices should not be neglected. Production functions are defined in physical units; this point can best be made clear by working with a complete, well-defined mathematical model.

The discussion of the relationship between classical theory and liquidity preference (p. 173) is confused. It is quite incorrect to claim that liquidity preference has no place in a static classical model. Such a position does not show a clear realization of the mathematics involved in transforming from static systems to dynamic systems. There is no reason why the classical theory of utility maximization, in a dynamic setting, cannot be used to derive the equations of liquidity preference. In fact, they have. The static (equilibrium) solution of this dynamized classical model will then contain a liquidity-preference equation.

Dillard attempts (p. 197) to link the discrepancy between the interest rate and marginal efficiency of capital in the Keynesian system to the discrepancy between the market and natural rates of interest in the neo-classical system. This result is very questionable. In the discussion between Pigou and Keynes on wage flexibility and employment (p. 220), Dillard has written off the argument as a flat victory for Keynes. Some admirers of classical thought have not yet conceded victory and are continuing the debate on the basis of Pigou's article in the *Economic Journal* (December 1943), although the Pigovian analysis is seriously lacking in empirical content. The scraps of evidence that are available point in the direction of victory for Keynes. There is a rather peculiar and unsatisfactory definition of "true inflation" (p. 237) in the volume. It states that "true inflation occurs when prices rise without being accompanied by a rise in employment and output." One wonders what was "untrue" about the U. S. inflation of 1947-1948?

The characterizations of overinvestment theories of the business cycle (p. 278) do not seem to square with the customarily accepted position of this school of thought. "Overinvestment" is not to be interpreted literally or absolutely, as Dillard does, but is to be regarded in relation to an unbalanced structure of production and the availability of funds to maintain high investment with the "elongated" structure of production. On the positive side of the ledger, it should be pointed out that there is, among many good points, an interesting discussion of the labor theory of value (p. 194).

In view of the shockingly disrespectful and inaccurate references to the late Professor Rogin appearing in another review of this book, it must be stressed that it is good fortune to have some lasting evidence of Rogin's views on Keynes transmitted via Dillard. Rogin had no mean influence on Dillard's intellectual development.

LAWRENCE R. KLEIN

National Bureau of Economic Research

The Theory of Economic Change. By B. S. KEIRSTEAD. (Toronto: Macmillan. 1948. Pp. xi, 386. \$5.00.)

This is a group of studies of the operation of the economy in the very long period when wants, resources, and technology—the customary constants—become variables. Professor Keirstead examines the effect of this variation upon aggregate demand and upon real income, its composition and distribution. The analysis for the most part is conceptual, as it must be within the compass of anything shorter than an encyclopedia, but it is illustrated along the way with material drawn from the Canadian and United States economies. An analysis of this kind, so intricate and far reaching, is a formidable undertaking and one from which less hardy men would withdraw. But it is necessary if we are to take the measure of the most important problems of economic policy.

The book opens with an excursion into methodology in order to discover how much of economic change is within the power of human purpose and how much arises from necessity. The author concludes that physical and institutional forces place a limit on freedom but these limits allow a wide area for voluntary action. It is the purpose of politics, he states, to define the proper ends of economic action while the economist's function is to propose the proper means for achieving them. Part Two examines the ideas of economic change held by Smith, Ricardo, Marx, and Schumpeter. The author finds none wholly satisfactory, and submits that economic change comes of a plurality of causes which express themselves through social institutions of voluntary design which in turn react upon the original causes. The effect of innovations and of changes in population then are studied by the familiar technique of model construction. Considerable attention is paid to partial equilibrium as well as to aggregative changes.

The operation of the firm through long periods, as demand and cost functions change, is next considered. In Parts Three and Four, there are useful summaries of some of the less emphasized aspects of partial equilibrium analysis, notably the quantitative expression of demand and the theory of the expansion path. Changes in the location of industry, with application to the maritime provinces of Canada, are studied in Part Five. The book ends with proposals for a policy governing population movements, international investment, the cycle, imperfect competition, and the distribution of income.

It must be apparent from this summary that although Professor Keirstead has ranged widely over the field of economics, his selection of subject matter clearly falls within the purpose of his book. He has presented all of this in an informal, usually lucid, style, which for the most part is pleasantly free of argot. In the review of price theory, there are, I believe, a few slips here and there, but they are unimportant to the theme of the book.

This theme is the assertion that unregulated changes in a market economy inevitably will produce stagnation from which relief will be sought either through democratic control or by the imposition of fascism or communism. The assertion has warrant in the author's belief that most industry operates under decreasing costs in the very long period, that the heavy fixed investment which this entails leads naturally to collusion as an escape from intolerable

instability, that as a result, income is distributed more and more unequally, that the enormous surpluses of monopolistic firms can find no investment outlets, finally that welfare must decline in consequence and political change necessarily follow. This is a variation on an idea now quite familiar, and, as might be expected, the names of Keynes and Hansen rumble through the book. Yet Professor Keirstead has gone somewhat beyond the familiar doctrine of economic maturity. He has examined the effect of imperfect competition in this process, he sets forth with more rigour the implications of population changes, and he has made still more emendations to *The General Theory*.

Those who are predisposed to the idea of economic maturity will find much here to sustain them. But those who are not will regret that Professor Keirstead has not lavished the same ability on demonstrating his assumptions as on reasoning from them. For it is not at all apparent to me that the optimum scale of plant requires only a few firms in an industry; indeed, my doubts were reinforced by some of the author's own footnotes. Nor is it self-evident that monopolistic firms and cartels enjoy great surpluses because the evidence, in both a theoretic and factual view, suggests the opposite. Neither am I convinced that monopolies have as much power as is suggested to subvert the freedom of the individual worker and consumer. Only if all enterprises were conducted by a single, vast monopoly (with devilish efficiency) would these fears come to reality. Finally, I cannot share Professor Keirstead's confidence in the capacity of government to do all that which he believes the market cannot do. One may agree that a *simpliste* attitude of *laissez faire* is silly to the point of being irresponsible, yet hold the most compelling doubts that the government should direct the development of resources, provide "social amenities," establish public enterprises, as well as look after the cycle through fiscal measures and continue most of its present functions. But though one may disagree with the author's answers to these primary questions of policy, he is to be commended for his forthright approach to them. It is a point of excellence in a valuable book.

WILLIAM D. GRAMPP

The University of Illinois in Chicago

La Valeur Logique des Théories Économiques. By BERTRAND NOGARO. (Paris: Presses Univ. de France. 1947. Pp. viii, 185. 200 fr.)

La Valeur. By FRANÇOIS PERROUX. (Paris: Presses Univ. de France. 1943. Pp. 400. 100 fr.)

At any time, and particularly today, the progress of economic theory is aided by books like these. Professor Nogaro analyzes the errors in logic or pitfalls in thinking which have been typical of economic theories. Professor Perroux has written a rather detailed summary of the concepts of value, indicating what he believes are the deficiencies in the views of various economists and which concept may be regarded as most valid.

Neither book makes an original contribution to economic theory, but as insightful summaries, one concerned with logic applied to economic concepts and the other, with an economic concept submitted to sharp and minute criticism, they are stimulating and suggestive and compel a good deal of re-think-

ing of familiar notions. They provide a healthy shock for economists on either side of a Ph.D. who have grown sleepy in the presence of ideas they have "heard" before. Yet in spite of success in this regard, both Professor Nogaro and Professor Perroux have failed to give as deep or clear an analysis of the problems they study as might have been given or could be made.

Professor Nogaro is primarily concerned with the use of deductive and inductive methods in economic reasoning. Through a series of brilliant critiques of economic theories, he lays bare errors which have been committed, particularly in deduction. He summarizes these typical errors in the final chapter, called Conclusions. Much of this material should have been presented in the Introduction. The readers, who will be economists and not logicians, would then have been forewarned and the body of the book, consisting of analysis of these logical failings, would have been more effective. As it is, the errors in economic thinking are clearly revealed but the nature of the failure in logic is not always as obvious.

The topics of some of the chapters will indicate the range of theories analyzed: The Quantity Theory as a Deductive Theory; The English Classical Theory of the Equilibrium of International Trade; The Theory of Bimetallism; The Marginal Theory of Value; The Concept of Capital and the Classical Theory of Distribution; The Ricardian Theory of Rent; and The Equality of Savings and Investment According to Lord Keynes.

The most frequent logical errors which economists commit, it turns out, are not peculiar to them. For one, we have a tendency—Professor Nogaro asserts it is in our subconscious—to make incorrect conversions. For example: if an increase in the quantity of money results in a decrease in its value, then a change in the value of money can result *only* from a change in its quantity. But, apparently, the majority of errors do not result from violations of the formal rules of logic. The primary source is a lack of precise definition of terms or facts ("la matière du jugement," to use his phrase). This type of error applies particularly to the most general economic concepts—price, capital, income, etc. And it occurs most often in the deductive method. The inexactness usually leads to the choice of data or illustration to "prove" an *a priori* notion.

Professor Nogaro is especially concerned (even vexed) about the errors economists commit when they deduce. He recognizes that the deductive process has its proper use, even in inductive theory, but he attacks its careless employment. He demonstrates how errors can be compounded by appealing to an accepted economic concept (itself not clearly defined) or by recourse to general principles of logic, mathematics, or economic psychology, the effect of which is to impose false corroboration or deceptive rigor.

With regard to the inductive method, Professor Nogaro indicates the familiar source of error in observation and the difficulties of gathering statistics or historical documentation. He places his confidence in the inductive procedures because he believes the inductive economists are less exposed than the deductive to "certain errors and illusions." Perhaps! It depends on how easily one falls in love with an hypothesis.

In fact, the major logical defect in Professor Nogaro's approach is his naive and vague distinction between induction and deduction. His analysis would

have been more helpful if he had kept in mind the statement of Morris R. Cohen, "That all inference is deductive and that what passes as induction is either disguised deduction or more or less methodical guesswork."¹ A recognition of this fact would have shifted the emphasis from the fallacies of deduction to the problems and difficulties of induction. Professor Nogaro has written a book on the method of political economy. It is surprising he did not see where is the greatest need.

What Professor Nogaro is saying, in essence, is that economists should be better thinkers before they attempt to think. No debate! A considerable amount of confusion could be avoided and much effort be saved if the canons of logic and the cautions of semantics were mastered and practiced. But such caveats are not enough—they do not go to the heart of the problem. We need to understand more about the genetic process of a concept—the individual psychology, the sociology and, indeed, the political science. We must know more about the choice and verification of abstractions, the problems of bridging the abstraction-reality gap, and how to meet the challenges presented by imprecise, multiple factors. In brief, while something is to be gained from a review of deficiencies of economists as thinkers, it is more important to focus on problems he faces when he is thinking at a maximum. It is not merely a question of "tightening up" the discipline. There must be a basic orientation in analysis.

Economists are usually light-hearted and irreverent about scope and method. One should be suspicious of a purely methodological approach. But economists will more likely make progress from a common basis of good thinking than through the honored tradition—the minute reconciliation of the unclear through the magic of poor reasoning. Professor Nogaro's critique is a welcome stimulant to careful analysis. The exposition is concise, the prose direct and clear. It would be an excellent text or supplementary reading for a graduate course in theory.

Professor Perroux's volume is a keen, neatly organized account of the concepts of value. His analysis is considerably fuller and longer than one could find in an encyclopedia article or a history of economic thought. There are distinct advantages in this type of treatment of major economic concepts, especially when the critical survey is based upon an orienting principle and the conclusions are clearly accumulated.

The unifying concept in Professor Perroux's analysis of value is marginalism. "It is not," he says, "a body of propositions that one can accept or reject. It is the only group of coherent and integrated explanations of economic life" (p. 294). Professor Perroux does not explicitly state his own position but it is fairly evident that he regards himself as a neomarginalist. Neomarginalism, according to Professor Perroux, recognizes that choices are determined by all the social forces operating on individuals. The marginal utility of each good is defined in relation to all the possible combinations of that good with others and all the desires for that good (p. 219). And the time-factor is introduced in the explanation and transformation of values.

¹ Morris R. Cohen, *A Preface to Logic* (New York, 1944), p. 19.

Professor Perroux divides his survey into three parts. The first and shortest section, *The Objective Theory of Value as Cost*, discusses the cost concept from both the classical and from the Marxist viewpoint and briefly summarizes the familiar criticisms of them. The second and longest part, devoted to the *Subjective Theory of Marginal Utility*, is a thorough analysis of the diverse formulations of subjective theory of value (Böhm-Bawerk, Menger, von Wieser, J. B. Clark, H. Mayer, etc.). He describes the emergence of the concept of marginal utility, its use in the explanation of economic calculations and attempts to show how through neomarginalism the idea of marginal utility is brought into a closer accord with reality.

The third and last section analyzes what Professor Perroux calls *The Objective Theories of Social Value*. The terminology is confusing. When value is considered as social, it resides in society and not in individuals and is, according to Professor Perroux, objective. He includes in this group: (1) The state theory of value (the individual exists only in the state, hence the goals and preferences of the state become those of the individual); (2) "Value is a representation of a collective being, society or the group which exists outside and above its members" (p. 308). ('Would not Marx's labor theory of value properly come here?'); (3) Institutionalism; (4) Welfare economics. On this ancient, yet most contemporary, problem of the state and the individual, Professor Perroux's criticism offers very little help.

Indeed, the fundamental weakness in Professor Perroux's analysis of value can be found in the unclear and undefined relations between the individual and society. Professor Perroux, of course, cannot be expected to clear up confusions which have been harassing during the entire history of human thought. Yet his own position of neomarginalism, in turn affecting his appraisal of the concept of value, is filled with implications which, left unexplored, minimize the value of marginalism in any form. How much is gained by saying that our marginal decisions are determined by a complex of social forces if we cannot establish the causal and quantitative relations of those influences on our decisions? Or if, as Professor Perroux does, one depreciates the rôle of the state, society, institutions or welfare economics. Marginalism can explain the mechanics but not the formation of our economic decisions. It is, however, knowledge of the formation of our choices, in substance and process, which gives body to economics and relates economic decisions to other human values.

In his defense of neomarginalism (and the implied sovereignty of the individual), Professor Perroux has tended to play down or under-rate the sociological and political aspects in the determination of value. But these critical comments may leave a wrong impression about his book. Professor Perroux has written an excellent summary of value, a sharp, illuminating, and rewarding effort. However complex and obscure are the social forces affecting our choices, in my neomarginal judgment both Professors Nogaro and Perroux have rendered economic thinking a very valuable service.

MENO LOVENSTEIN

Ohio State University

Price Economics. By ROBERT B. PETTENGILL. (New York: Ronald Press. 1948. Pp. xiii, 483. \$4.50.)

Dr. Pettengill's work is intended primarily as a textbook for the second or intermediate course in economic theory. The book is concerned exclusively with the problem of how individual prices are formed in the product and factor markets. Accordingly, the work is divided into two sections of approximately equal length on the prices of commodities and the prices of services. This conventional organization, however, does not reflect a conventional exposition of price theory, for the author's work analytically is not wholly in the vein of the texts of Bain, Boulding, Due, Stigler and Weintraub.

The author believes that the principal contribution of his textbook to the presentation of price theory is his merger of institutional and theoretical approaches. By this statement Dr. Pettengill does not associate himself with the school of American institutionalists. Prices to him are still the center of the economist's interest; he has written a whole book to explain them. Nor does he reject the standard demand, supply, and cost curve tools of economic analysis, for he employs them constantly.

The term institutional as used by the author appears simply to express his desire for greater realism. His objection to considerable portions of modern price theory is that the models it employs are unrealistic. This objection, curious to note, is raised against the firm unit and not against the consumer unit. The model of a consumer unit as a satisfaction maximizing entity is accepted and is well presented in a chapter on indifference curve analysis. The exposition of demand theory is conventional in almost all respects.

But on the supply side the author finds much to criticize and reconstruct. An absolute model of the firm as a profit maximizing unit is held to be unrealistic. Supply prices are not determined solely by cost calculations, but by custom, law, inertia, etc. The cataloguing and description of such elements apparently makes the author feel that greater realism is achieved.

Besides the emphasis on realism, Dr. Pettengill also proposes a new classification of market situations upon the basis of the conduct of firms as well as their number. It is true, of course, that the number of firms often has a definite bearing on their conduct, but it is well to distinguish, the author insists, functional matters of market conduct from the substantive matters of market structure. It is important not only whether an aluminum producer happens to be the only producer of aluminum, but whether he will immediately cut his price if a fall occurs in the price of substitute metals. Instead of discussing duopoly, oligopoly, etc., as market classifications, Dr. Pettengill attempts to account for different types of buyer and seller behavior and to trace the major patterns of price behavior that result.

The discussion of wage rates, rents, interest rates, and profits in the second portion of the book upon the whole follows conventional lines, except for some of the author's views on interest and profits. Some instructors may possibly be bothered not so much by the book's unconventionality at points as by the fact that despite its size and systematization, it is at all times a work solely on

how specific prices are determined. The relationship between prices and the general level of employment is entirely neglected. The interest at all times is in individual prices, never in the pricing system as a unity. Despite an introductory chapter on the nature of economics, no real justification is made as to why the economist should be so concerned about explaining prices; no detailed discussion of the functions performed by the pricing system appears.

All this is probably a product of the author's basic distrust of the practical content of modern price theory. The significance of monopoly to the economy is dismissed in just two pages (189-191). The fact that monopoly distorts the allocation of resources receives no attention. To the student the only objection to monopoly to be derived from the text is that it affects the distribution of income. Nowhere does the text show that any policy conclusions may be drawn from the framework of price theory: the explanation of individual prices appears to be the only purpose of the book.

The author has apparently devoted much effort to precision and clarity in attempting to make this a successful textbook for students. While the style of the book is not lively, it is concise. Each chapter begins with a statement of the specific questions that the chapter is designed to answer and closes with a good summary. It may well be that this book will have a definite impact on the form of future textbooks.

A. MORGNER

Texas A. & M. College

Enterprise in a Free Society. By CLARE E. GRIFFIN. (Chicago: Richard D. Irwin. 1949. Pp. xiv, 583. \$5.00.)

This book is a timely and useful addition to the literature of American capitalism. Within its 573 closely printed pages of text, containing more than 250,000 words, Professor Griffin has given a systematic and scholarly treatment of enterprise in American society—its functions, motivations, consequences, and environmental conditions that facilitate it.

The star in Professor Griffin's cast is the entrepreneur. The author assigns him the leading rôle because he holds that the supply of enterprise is peculiarly important to the progress of an economy organized on a basis of private enterprises, competition, and free markets. Some members of the audience will, no doubt, object to the playwright's preoccupation with one character in the drama. This critic shares his view that the entrepreneur has too long been taken for granted and been cast in minor rôles, while other actors have monopolized the stage. It is high time that the enterpriser's talents be displayed, understood, and cultivated, if the play is to continue to command public support at the box office.

The book is divided into three Parts, the first of which treats the rôle of business enterprise in economic expansion. Part II deals with the environment of social groups and attitudes, public laws and regulations, that influence enterprise. Part III states the philosophy of liberalism, into which the propositions of earlier chapters are synthesized.

The author emphasizes the need for continuous secular expansion of the

American economy. Advancing science and technology force expansion, as do the imperatives of national security in an ideologically divided world. This expansion is required to provide psychologically satisfying opportunities for people, to create outlets for increasing savings, and to alleviate poverty. Economic expansion comes about mainly as a result of decisions by businessmen to initiate new firms or to re-equip or enlarge existing firms. Therefore, contemporary society needs most of all an adequate and increasing supply of enterprisers. To induce expansive decisions by them, motivations must be sufficiently strong. The author analyzes economic incentives, non-economic rewards of power, prestige, social approval, etc., and the general aura of public confidence and optimism which may be the most important motivating factor of all. The prospect of profits is a decisive incentive, and the author develops a theory which treats profits as a *combination* of (a) reward for assumption of risk, and (b) differential return for relatively great efficiency in management. The more rapid the progress of the economy, the larger must be factor (a), because progress means change, and change creates uncertainty and risk. A profit-and-loss economy is more endangered by lack of popular understanding of, and faith in, the social functions of profit than it is by want of investment opportunities or oversaving.

The business firm is itself a social entity, under strong impulses to expand for its self-preservation, to meet current demand in its market, to hold its position in its industry, and to reduce the burden of overhead costs per unit. In an economy in which competition is necessarily imperfect, these motivations of the firm explain the business *policies* that are characteristic of American enterprises—increasing sales volume, encouragement of product and market research, low-margin high-volume pricing, direct reinvestment of part of earnings, rapid replacement of equipment, management instead of stockholder control of policies, executive incentive devices, and much rivalry *within* the large corporation as between its product divisions.

The incentives to initiate a new business are different from, and must be stronger than, those sufficient to induce expansion of existing firms. Prospective entrepreneurs are unaffected by such negative incentives as desire to minimize losses or to maintain a "share of the market," which affect established business even when they are unprofitable. A unique advantage of the competitive economic system—which provides a powerful stimulus to progress—is that it possesses a large number of decision-making centers. Hence the creative, innovating *minority* of firms exercises decisive influences over the passive majority, and forces the latter to adopt the newer, more efficient techniques in order to survive. The historical record of American production, and productivity, indicates that the various incentives to expansion that have operated in the past have been potent enough to produce a highly satisfactory performance.

In regard to the environment of enterprise, the author holds that entrepreneurship is relatively a scarce factor of production, and public policies must be re-examined from the point of view of their effects upon entrepreneurial incentive. A new conception of "competition" is needed. The classical theory of "perfect" competition, in which price is the only variable,

is not a feasible norm for a progressive economy. Research and technical progress are conceivable only under "monopolistic" competition; they tend to broaden the range of alternative products open to buyers and sellers in the market, and to create and maintain an effective rivalry which is the essence of true competition. "Perfect" competition could exist only in a static economy. While there have been changes in the nature of competition, there is no evidence of a "decline" in competition in any significant sense. The state has erred, not so much by failing to break up concentrations of economic power, as by deliberately fostering monopoly through tariffs, "fair-trade" laws, agricultural programs, labor union legislation, etc.

The patent system comes in for an examination in connection with its effects on invention and innovation, and receives a clean bill of health. The federal tax structure is probed, and found wanting in its discrimination against income derived from corporate profits. Labor-management relations are scrutinized, and Professor Griffin finds collective bargaining on an industry-wide basis adverse to economic expansion. He commends, instead, company bargaining with independent company unions. There are chapters on the price level, and on foreign trade and economic expansion.

Professor Griffin's two final chapters concern the philosophy and the present crisis of liberalism. Here he gives a succinct statement of the classical liberalist position regarding the relation of the individual to society, and he points to the great achievement of the Western world under these concepts. He asks why, in the face of these achievements, the liberal philosophy and policy has undergone so rapid a decline during the present century. This brings him to the fundamental issue posed at the beginning of the book: How may the fact of growing economic interdependence, with the appurtenant search for personal "security," be reconciled with the aspiration for individual freedom? Professor Griffin answers that there is *no* ultimate reconciliation, but there is a satisfactory compromise. The contemporary liberal (in the old-fashioned sense) must advance a positive program, including vigilance to preserve personal rights, dispersion of economic power in the hands of all private groups, establishment of minimal "floors" of security, mitigation of extremes in wealth through taxation, and equalization of opportunity through the extension of education.

Viewing the book page by page, the critical reader will find that most of Professor Griffin's concepts and propositions are not unfamiliar. Different aspects of the relation between business enterprise and economic expansion have been treated by many writers. The profit theory stated long ago by F. H. Knight greatly exceeds in clarity and consistency that advanced by Professor Griffin. The treatment of public policies from the point of view of entrepreneurial incentives bears many similarities to the monographs and policy statements issued during recent years by the Committee for Economic Development. The liberal philosophy and program evidently owes much to the late Henry C. Simons, David McC. Wright, F. A. Hayek and others of their stamp.

Yet the book as a whole possesses a certain strength and freshness, which may be attributed to the consistency with which all subjects are oriented

to enterprise. It succeeds in drawing together between two covers a more complete—albeit imperfect—treatment of enterprise as a productive factor than has yet appeared. It thus achieves a useful purpose, different from those of conventional treatises on business economics, business policy, or public policy. Professor Griffin is not concerned with the formal economic theory of the firm, or with the technical details of business policy. His pages contain no algebra, geometry, charts, or graphs. They do reflect understanding of business and economic processes, intellectual balance, philosophical grounding, and historical perspective. If used together with one of the analytical works, the book should provide good textual material for intermediate courses offered by departments of economics or university schools of business.

A number of the more important errors and omissions may be noted:

1. Business cycles are so well recognized and important a phenomenon in the American economy that a book devoted to enterprise could reasonably be expected to examine the impacts of economic fluctuations upon entrepreneurial behavior, as well as the repercussions of business decisions upon the general economic situation. Even assuming strong secular growth, enterprise must still counter with short-term cyclical fluctuations. The book is silent on this subject.

2. Professor Griffin does not meet *directly* the Keynesian argument that the price system under modern conditions is ineffective in dealing with chronic under-employment of resources. Inferentially, he does deny the validity of this idea, but a sharper and more specific treatment of this subject is called for.

3. The book contains virtually no empirical evidence to buttress the author's generalizations about American business policy. Professor Griffin cannot be censured too heavily for this omission, because there is a lamentable want of verified and organized knowledge about the policies and actions of business executives under various conditions. The author might have been expected to make reference to such empirical studies as are available, and to point to the opportunities for empirical research that his study revealed.

4. The treatment of profit theory is confusing and ambiguous. "Profit" is used—often in the same paragraph—to embrace a variety of components, and it is difficult to know when the author uses the accounting concept of "net income available for stockholders," when he means the rate of interest, and when he refers to economic profit as a payment for aversion to bearing uncertainty.

5. The value of the book would have been enhanced by more complete references to other scholarly works. In many instances particular topics dealt with by Professor Griffin have been treated with greater clarity or fullness in earlier works by other writers. Thus, Beardsley Ruml developed admirably the relation of business enterprise to personal freedom, and the rôle of business as a social institution, in his *Tomorrow's Business* (1945); A. D. H. Kaplan contributed a valuable discussion of the economic rôle of new and small enterprises in his *The Special Problems of Small Business* (1948); Harold M. Groves made a penetrating analysis of the effects of federal taxes upon business decisions and alternative plans of federal tax reform in his

Taxation and Economic Progress (1946). The reviewer was unable to find references to these and other significant works, and was left to wonder whether the author had examined them, and if so, why he had ignored or rejected them.

NEIL H. JACOBY

*University of California,
Los Angeles*

The Proper Study of Mankind: an Inquiry into the Science of Human Relations. By STUART CHASE. (New York: Harper. 1948. Pp. xx, 311. \$3.00.)

"When it was suggested by Donald Young of the Social Science Research Council and Charles Dollard of the Carnegie Corporation that I run a kind of chain and compass line across the whole front of the sciences devoted to human relations, I was immediately interested. It connected with a deep and fundamental quest for certainty which had troubled me for years."

Such, writes Stuart Chase, was the cue for his new book. And the major question to be asked? "How far has the study (of men) progressed in two hundred years?"

"It called for an answer on a scale that the intelligent layman could grasp. The answer must get the subject into clear perspective and reasonable proportion, and it must not deal exclusively in high abstractions. It must offer concrete evidence to illustrate what has been done in the various fields of social science, and point out what gaps need to be filled."

Mr. Chase sets about his task with energetic vigor. And he has succeeded in writing an interesting and useful book. As will be remembered from such earlier works as *The Tragedy of Waste, Rich Land—Poor Land*, and *Idle Money—Idle Men*, Stuart Chase is a reformer who is basically optimistic about our capacity to solve our own problems, once we have defined them. He places his principal faith in "science" and the "scientific method" and gives no indication that he is troubled by the crumbling of spiritual foundations in modern life.

The Proper Study of Mankind is primarily concerned with providing an over-all impression of the current status and future prospects of the sciences concerned with *group behavior*—particularly cultural anthropology, social psychology and sociology. These new sciences are having a substantial vogue at the moment and, if I may indulge a critical streak, I would say that along with a number of others Stuart Chase is over-impressed with their scientific character and accomplishments compared to the disciplines of history, government, and economics. Not that I personally quarrel with many of his strictures against "Ricardian economics," but it seems hard to endorse the statement that "of all the social sciences, economics, along with political science, has the weakest theory structure." It is weak, no doubt, in its lack of verification, but is it weaker than the *theory* of group behavior?

I also wish it were possible to encourage careful observational and experimental studies designed to test hypotheses and to create an additive science

of man and still recognize that the most original and arresting hypotheses to test may come from people who take a more philosophical approach.

Consequently, I am troubled by the implications of the distinction that Mr. Chase feels "very important" between two wings of social science. "Far out on one side are the personal speculations of great men like Aristotle, Hobbs, Marx, and others not so great. Nobody knows whether what they say is true or not. Far out on the other side are the plodding note-takers in clinic, Congo village and laboratory, putting down what they see and hear. They are accumulating a solid core of truths. . . . Is Toynbee writing history or theology? Is the capitalist system mature? Listening to this constant buzz soaring up the ventilators of practically any department of social science, one suddenly realizes that the senators (debating the National Science Foundation Bill) had a reason for being confused. They had not analyzed the social disciplines to find the distinction between the scientific method and mere speculation. If they had done so, they might have been willing to subsidize projects like selecting pilots, but not *The Decline of the West* or *Das Kapital*."

I regret that Mr. Chase finds it significant to labor this distinction. What seems crucial is that we should establish a continuum between theoretical speculation and "plodding note-taking," both being essential elements in any progress we may make toward understanding man.

But so much for criticism. What does Mr. Chase find in his survey of significant work now going on in the social sciences? This represents the main body of the book and is difficult to review because so much ground is covered. What he reports, after an extensive but inevitably spotty survey of research in progress, is that "the study of mankind" is showing healthy signs of new development and already has much to be proud of.

There is a chapter, for example, called "Revolt in the Desert," describing the work of a group of social scientists who "left their laboratories, clinics and field work to make a study in a community boiling with frustration and aggression"—the Japanese-American camp in Poston, Arizona.

In "Darkest Middletown" Chase reviews a series of sociological community studies from the Lynd's pioneering work to Lloyd Warner's *Yankee City*. Elton Mayo's Hawthorne experiments at Western Electric are given high praise, as also the work of Elmo Roper in polling public opinion. Honorable mention goes to Yale's Institute of Human Relations for its work on learning theory; to Arnold Gesell's Clinic of Child Development, also at Yale; and to the M.I.T. Research Center for Group Dynamics (now at Michigan) for its work on communications.

Economic research is given shorter shrift. But Colin Clark's "analysis of shifts in occupations," "the definitive work of Berle and Means on the modern corporation" and studies of the Gross National Product are specifically and favorably mentioned. As general advice to economists, Mr. Chase urges more testing of theories and the development of team work with other social science disciplines.

Curiously enough, considering the title of the book, there is very little reference made to the work being done by psychiatrists and others on the

study of personality. I would think myself that the analysis of the individual should go hand in hand with studies of group behavior in progressing toward a "science of man."

Perhaps Mr. Chase's most important contribution is to stand up publicly before a large lay audience and say, in effect: "Although the social sciences are still groping, they already have made important contributions to the solution of *practical problems*. And for those of you who are doubtful, here specifically are some of the things they have done. Do you not agree that this is an impressive beginning and that we should take heart from the progress being made in forging new social engineering tools?"

W. RUPERT MACLAURIN

Massachusetts Institute of Technology

Economic History; National Economies

British Economy of the Nineteenth Century. By W. W. Rostow. (Oxford: Clarendon Press. New York: Oxford Univ. Press. 1948. Pp. 240. 15s; \$4.00.)

Professor Rostow has given us in this volume a stimulating and lucid group of essays which impinge on many aspects of theory and history. They are bound together by their concentration on Britain's economy from 1790 to 1914—a period which, the author suggests, lends itself to unified study—and by their concern with combining the disciplines of economic theory and history. The author expresses the hope that a study of the nineteenth century economy will be useful in that it appears possible that "the era of planning which confronts us will, in the end, attach a greater premium to the tools of classical economics, and their recent extensions, than the pathological inter-war years" (p. 2).

The first four chapters contain analyses of various movements in the British economy. This survey opens with a most interesting contribution to the study of long waves. Rostow's principal concern is with the various trend movements in real wages which may be detected during the course of the century. Emphasis is laid on the "shifting balance between productive and unproductive outlays; and among types of productive outlays with differing yields and differing periods of gestation" (p. 12). This is a most interesting concern with the dual effect of investment in creating income and in creating productive capacity; and the author pursues his theme with a deft manipulation of highly relevant statistics. Yet it cannot be said that he is wholly successful. We should need more detailed knowledge of the variations in the lengths of the gestation periods of different investment undertakings; and in view of the composition of the index of real wages used here, we may perhaps query the closeness of the connection envisaged between the cheapening of *industrial* products and the rise of real wages. In particular, we may ask whether a more important place ought not to be given to the terms of trade. But while we pose these questions, we should remember how brief is Rostow's treatment and how remarkably rich it already is.

Chapter II draws our attention to cyclical movements. Pointing to the

existence of minor cycles interspersed between the major, especially in the first half of the century, Rostow notes the predominance of consumption goods in British exports during this period and dilates on the possibility of an inventory cycle in foreign trade. Then, after a brief review of the data on the amplitude of the nineteenth century cycles, he gives a few skilful pages on four factors involved in them: the cyclical behaviour of British harvests, commodity prices, long-term investment, and the Bank of England. An adequate assessment of the significance of these forces would require their being set in the larger perspective of a more rounded examination of these cycles, and it is to be hoped that the author will one day do this for us. Within its present scope, however, his analysis might be improved by an examination of the interconnections of the forces with which he deals. Might not harvests, for instance, have something to do, through their effects on wage costs, with the behaviour of commodity prices?

After these general pictures of the century as a whole we have two essays on aspects of the "Great Depression" in the second half of the century. Professor Rostow contests the view that this was a depression period, and remarks on the high *average* level of employment. His explanation of the events of the period turns on the growing foreign competition which was besetting the British economy; and on the disposition of investors to seek domestic rather than foreign outlets for their funds—a reversal of their policy in the previous few decades. The second essay on the "Great Depression" treats of the movements of real wages between 1873 and 1886. Having a smaller field to cover than in the opening essay, the author is able to deploy his arguments in greater detail and we get some idea of the fullness of the analysis which would appear in an expanded version of Chapter I. A rise in real wages is related not only to the characteristics of investment in the same period, but also to long-term investment in a previous period; and "an element in the increase of real wages was the favourable trend of the terms of Britain's foreign trade" (p. 100). The chapter closes with a few pages on income distribution; and the appendix (pp. 226-35), criticizing Kalecki's theory of distribution, should be read in conjunction with them.

From cyclical analysis we turn to two chapters on the complex interrelations between economics and politics. Rostow's primary concern here is to show the close connection between legislation and current economic events, but we might suggest that the order in which the chapters appear to be reversed. The second gives a skilfully balanced disquisition on the interplay of economic, political and social forces, while the first is in the nature of a more detailed essay on what may be done with a part of the framework sketched in the second.

The volume closes with two contributions to the history of economic thought—the impact of the "Great Depression" on theory, and Bagehot's trade cycle analysis—; and, finally, a detailed and adroit survey of the years 1874-1879.

In sum, it is a rewarding book, richly deserving attention.

A. D. KNOX

The London School of Economics

Japan's Economy in War and Reconstruction. By JEROME B. COHEN. (Minneapolis: University of Minnesota Press. 1949. Pp. xix, 545. \$7.50.)

This comprehensive study of Japan's economy from the early 1930's through 1948 is an outstanding contribution. Until now, despite the magnitude of the American war effort against Japan and our maintenance since her surrender of an occupation accompanied by large expenditures for relief and economic rehabilitation, American economists have published remarkably little analysis of the country that was our Pacific enemy in World War II. The principal published materials available heretofore have been, first, the prewar study of Mrs. Elizabeth Schumpeter and her associates, and, second, the extensive postwar reports of the U.S. Strategic Bombing Survey, which remain the greatest single body of material on wartime Japan readily available to American scholars unfamiliar with Japanese sources. Professor Cohen, an economist who was a Navy Japanese language officer during the war and a member of the Bombing Survey, has studied the material produced by the Survey and a vast array of other documents, both American and Japanese. This book is the highly successful result.

Commencing with a chapter on the decade-long preparations before 1941, Professor Cohen proceeds to portray in detail the anatomy and pathology of Japan's war economy and concludes with a chapter on the major economic features of the occupation. Many more words will surely be written about the occupation, but this study of the war period is not likely to be superseded very soon. His Chapter II, "War Years-- Overview," is a valuable summary.

Japan's defeat is shown in this book to have resulted primarily from the paralysis of her economy through Allied blockade. With about six million gross tons of shipping (steel ships of over 500 tons) on December 7, 1941, plus over four million tons built or captured during the war, Japan had only about half a million tons in operation on August 15, 1945. Japan's island economy, dependent upon large imports of food, petroleum, and industrial raw materials, could not have functioned much beyond the actual date of surrender even if no American bombs had fallen on Japan. The effects of Allied attacks on Japanese shipping appear to have been seriously underestimated by both Japanese and American leaders. It was not until after the loss of Guadalcanal that a full-scale Japanese ship-building program was undertaken, although considerable effort went into the expansion of facilities for processing raw materials that the Japanese hoped to import from the conquered areas. On the American side, the damage done to Japan by blockade was so incompletely understood that planes were sent over Japan from great distances and at great expense to drop bombs on steel and aluminum plants and oil refineries already idle from lack of imported raw material. One is tempted to speculate about the probable course of the war—and even of the occupation—had the importance of blockade been fully appreciated from the start. Professor Cohen shows that factors other than ship losses had relatively little effect on the approach of economic collapse. He believes that Allied bombing played a large rôle in persuading Japanese

leaders to "recognize the facts," but he does not attempt a complete evaluation of all the non-economic factors that led to the political decision to admit the imminence of defeat and offer to surrender.

It was not until the end of 1942 that Japan's leaders realized her predicament, and only then were plans made for all-out economic mobilization. The peak in raw material imports came in 1943. The output of finished munitions and other end-products reached a maximum in 1944, when gross national product also reached its highest level. Professor Cohen finds that the strenuous efforts of 1943 and 1944 yielded creditable results, considering Japan's basic limitations. But there was no escape. Within the narrowing limits of her freedom of action, Japan faced the problems of priorities, allocations, prices, labor, finance, and the many other aspects of economic management in modern war. Professor Cohen discusses them at length and shows that the Japanese bungled the job in various respects.

No single, cohesive group controlled the Japanese government and bureaucracy or, consequently, economic mobilization. The Army, Navy, and big business struggled for power, and no group won a clear and decisive victory before they all went down in defeat. No basic raw material was completely subject to the ultimate allocating control of any single person or group. In most cases the Army took what it could, the Navy did likewise, and the civilian economy did without, to a point where productive efficiency was very low. When civilian authorities handled allocations, as in the case of certain non-ferrous metal supplies, "The Army and the Navy each made totally arbitrary demands and refused to furnish even the Government, to say nothing of the control association, with any details of the use to which allocations were put" (p. 64). By a short-sighted draft policy, by lack of adequate training programs in industry, and by other means, the Japanese produced an acute manpower problem; plants had many workers but little skill and little output.

This book contains certain errors and inconsistencies, mostly small and of minor significance. One weakness is that, despite a long and very useful index, it is at times hard to locate information in the book, which appears to be organized and written as much for consecutive reading as for reference purposes. Also the charts, placed together at the end and not very attractively reproduced, are much less useful than they could be. Such minor limitations do not seriously detract from this major work.

WARREN S. HUNSBERGER

Chevy Chase, Md.

The Allied Occupation of Japan. By EDWIN M. MARTIN. Published under the auspices of the American Institute of Pacific Relations. (Stanford: Stanford University Press. 1948. Pp. xiv, 155. \$3.00.)

Occupation policy in the former enemy countries deserves careful study by economists. This relates not only to the economic outcome in Japan and Germany, which will obviously affect competition, stability, and economic development in many parts of the world. There is, in addition, a professional

opportunity here to observe in high relief the tendencies, provincialisms, and internal conflicts of our own economic thinking.

The present volume is one of a series on postwar Japan sponsored by the Institute of Pacific Relations.¹ Mr. Martin's book is concerned chiefly with policy, and is only secondarily concerned with the successes and failures of the Occupation to date. Roughly half the text deals with specifically economic issues, the remainder being concerned with matters of administration, demilitarization, democratization and social reform. Each section leads off with citation of the relevant passages from the basic Occupation documents, which are provided in full in handy appendices.

It is a conspicuous and rare excellence of this book that it maintains a comprehensive and balanced treatment of a highly controversial subject. Credit should go to Mr. Martin's own flexibility of mind, as well as to his intimate knowledge of the issues (he was formerly Chief of Occupied Area Economic Affairs in the Department of State). Especially notable is his judicious treatment of the complex reparations issue, underlining the dilemmas which have been inherent in this issue from the beginning, and recounting the protracted negotiations. This discussion helps to explain the recent U.S. declaration terminating Japanese reparations, a declaration which was treated by the press as simply astounding.

This book's coverage extends only to the end of 1947. This span permits Mr. Martin to present the various aspects, interests, and considerations, and to hold them in solution, as it were; whereas after mid-1948, the pressure of events precipitated the elements out of solution, deposited them in patterns of sharp contrasts, and forced the Occupation authorities to make selections and rejections which have evoked storms of protest.² It is testimony to Mr. Martin's insight that he discusses in one connection or another most of the issues which have since come to a head, including not only reparations payments *versus* termination, but also: the deconcentration program (especially in the version of attacking bigness as such), *versus* the encouragement of industrial operations; the encouragement and even license previously accorded to labor, *versus* efforts to restrict certain strikes, maintain wage-ceilings, and reduce overstaffing; demands for budget-balancing and corresponding "austerity," *versus* measures to stimulate the revival of production and *versus* desires to raise levels of living (especially as an encouragement to democratization); insistence upon tighter government controls (especially over allocations) and upon new forms of SCAP intervention, *versus* desire for rapid decontrol and the original policy of giving the Japanese government primary responsibility for the Japanese economy.

Most of the actions recently taken on these issues are designed to rehabili-

¹ Other volumes already published in this series are: Harold Wakefield, *New Paths for Japan*; T. A. Bisson, *Prospects for Democracy in Japan*; Jerome B. Cohen, *Japan's Economy in War and Reconstruction*.

² Mr. Bisson's book, mentioned above, is an outstanding example of such protest in the same IPR series. Among Asiatic spokesmen, the Chinese communists on the one hand, and General Carlos Romulo of the Philippines on the other hand, have been particularly vehement.

tate the Japanese economy; but they operate, to some extent at least, at the expense of social reform and associated objectives of SCAP and of American ideology in general. It is becoming increasingly clear that the Occupation of Japan faces not only the ordinary problems of rehabilitating a devastated country, torn between lagging production and tugging inflation; but also is struggling to do this job on American principles which are not always consistent with each other, let alone consistent with Oriental traditions. Furthermore, these principles, developed for our own advanced economic situation, tend to overlook the needs of an industrialization which has been suspended in mid-course, and which calls for further industrial expansion to relieve agrarian pressure, requires a certain concentration of income-flow or other devices of forced saving and capital formation, looks for enlargement of foreign trade, and still depends upon low production costs (including perhaps low labor costs relative to Western competitors).

The actual outcome of all these contradictory pressures is still in process, on both the ideological and the operational levels. This should provide a fascinating subject for a follow-up study of the Occupation in its later stages.

EDWIN P. REUBENS

Cornell University

La Planification en Tchécoslovaquie (Le Plan biennal). By GUY BRAIBANT.
(Paris: Armand Colin. 1948. Pp. 160.)

This study appears as one of the Cahiers de la Fondation Nationale des Sciences Politiques, a semigovernmental institution aiding research in the social sciences. Written by a young French economist, it describes the genesis, contents, methods and results of Czechoslovakia's two-year plan, carried out between 1946 and 1948. Although the plan is now a matter of history, having been superseded by the far more ambitious and revolutionizing five-year plan, it deserves much more study than it has received up to now. There are plenty of all kinds of plans abroad, but none representing comprehensive and specific planning for a country already having achieved a high degree of technological development, industrialization, and dependence on foreign trade, such as Czechoslovakia. The study is well organized, adequately anchored in theoretical concepts and contains a fair amount of statistical material.

Its weakness lies in somewhat onesided reliance on official data, which leads the author to emphasize the successes of the plan without much reference to its failures, *e.g.*, in the building industry. The same source material is probably responsible for the statement that the Czech economy from 1918 to 1945 was in a colonial state of dependence on foreign capital, whereas in reality it was even exporting capital during at least part of that period. It would certainly be difficult to prove that the leading banking concern, that of Zivnostenska banka, which virtually controlled Czech industry, was a tool of foreign capital. Aside from a few mistakes of this kind, the study should prove useful to all students of modern planning.

FRANK MUNK

Reed College

Land in California. By W. W. ROBINSON. (Berkeley: University of California Press. 1948. Pp. xiii, 291. \$4.00.)

Gold is the Cornerstone. By JOHN W. CAUGHEY. (Berkeley; University of California Press. 1948. Pp. xvi, 321. \$4.00.)

The economic development of California, with many unique features distinguishing it from the general pattern of development of the national economy, has seldom been singled out for specific analysis. Economic history texts give only brief mention, and general histories of the state treat economic development in incidental fashion. Much of the best work in the past has been found in specialized studies such as the Stanford University Press series on transportation,¹ and descriptions of certain periods, of which R. L. Underhill's *From Cowhides to Golden Fleece*,² based upon the papers of Thomas O. Larkin, American Consul in Monterey, is one of the outstanding. Thus, of particular interest is a new series published by the University of California Press in commemoration of the state's centennial, entitled *Chronicles of California*, designed to present a survey of all phases of development of the state.

The two volumes thus far available in the series which relate to economic aspects deal, respectively, with problems of land ownership and the direct significance of the gold discoveries. The author of *Land in California*, W. W. Robinson, has long been affiliated with the title insurance business in the state. The volume presents a comprehensive survey of the questions of land titles and land ownership from the period of earliest Spanish settlement down to the present time. The origins of the Spanish and Mexican grants are explained in detail; at least a third of the book is concerned with the situation prior to the American conquest. In contrast, relatively little space is allocated to the problems of American treatment of the earlier grants, and inequities involved in this treatment are minimized, in contrast to the attitude of many other writers. The problem has always been controversial, primarily because the actual breakup of the ranchos, caused to a large extent by the methods of handling claims, facilitated development of the state, though it involved failure to keep in good faith the provisions of the Treaty of Guadalupe Hidalgo. Latter sections of the book are concerned with problems of railroad land grants, the almost unknown effects of the federal land-script laws, the development of title insurance (an almost universal practice in the state), and related questions. In general, Robinson emphasizes the more technical aspects relating to land ownership and distribution of land, and devotes less attention to socio-economic effects of various policies and occurrences, although the latter are not completely neglected. The effects on the economy of the Spanish-Mexican land grants and their treatment under American rule, for example, are developed much more adequately in R. G. Cleland's excellent study, *Cattle on a Thousand Hills*.³ In addition to the land grant question, other controversial issues—large-scale land ownership in the last seventy-five years, the

¹ Particularly, O. O. Winther, *Via Western Express and Stagecoach* (1945); Jerry MacMullen, *Paddle-Wheel Days in California* (1944); and Gilbert H. Kneiss, *Bonanza Railroads* (rev. ed., 1947).

² Stanford, Stanford University Press, 1939.

³ San Marino, Huntington Library, 1941.

question of title insurance, and the tidelands problem—are treated far more briefly than is warranted by their importance. In general, however, the volume provides a good background for an understanding of land use problems in the state.

J. W. Caughey's *Gold Is the Cornerstone* is in a sense disappointing, because the treatment of the significance of the gold discoveries for the development of the state is far less detailed and complete than is suggested by the title. The book contains very little material not already easily available, but it does present a good and highly readable summary of the general picture of the gold discoveries and their immediate consequences for the state. Unfortunately, a third of the book is devoted to a description of the routes by which gold seekers reached the West Coast—a subject which is not very productive for an understanding of the development of the state. The effects of the mining developments upon population, industrial, and agricultural growth are noted, but only briefly, and in summary fashion. Likewise, technical aspects of mining and mine organization beyond the earliest period are scarcely touched upon, in contrast to the excellent analysis in Rodman W. Paul's *California Gold*.⁴

JOHN F. DUE

University of Illinois

⁴ Cambridge, Harvard University Press, 1947.

Statistics and Econometrics

Historical Statistics of the United States, 1789-1945—A Supplement to the Statistical Abstract of the United States. Prepared by the Bureau of the Census with the cooperation of the Social Science Research Council. (Washington: Supt. Docs. 1949. Pp. viii, 363. \$2.50.)

This new publication of the Bureau of the Census, hereinafter referred to for brevity as the Sourcebook, is submitted to members of the economics profession, especially economic historians, in partial fulfillment of a long-felt need for more readily accessible and more adequately described historical time-series. It will serve both as an aid to basic research and as a handy reference volume for analysts of current economic developments, teachers, students and others who frequently need historical statistics in their daily work. Everyone who has spent frustrating hours searching for an elusive figure, source, or adequate description of data will welcome the effort which has been expended to lighten this burden as well as that which, more importantly perhaps, is envisaged for the future.

Users of the present volume will note numerous shortcomings in coverage, description, and format. This has been anticipated by the editors, who state in the introduction that this edition is to be regarded as a working manuscript rather than a final product. "As such, it establishes a pattern and provides a preliminary selection of materials. Gaps and weaknesses are thereby disclosed and problems crystallized. On the basis of the experience thus gained, and the suggestions and criticisms of users of this edition, the process of revision will make possible a more useful future edition."

Coverage has been determined partly by the conception of purpose and partly by budgetary limitations. The basic premises for data selection as initially drafted (see Appendix II) contained a twofold statement of aim: (1) "To provide a convenient source of reference for technicians who need information outside their immediate field of specialization . . ."; (2) "To provide more intensive students with a summary guide to the more important time-series data available . . . and [with] the principal qualifications as to interrelationships of such series. Also, it should provide specific indications of the sources. . . ." To meet these criteria within the arbitrarily selected limit of 3000 series it was further held essential, so far as feasible, to confine the presentation of data to those for the continental United States as a whole; to present only annual or census-period data beginning no later than 1920 and covering at least 20 years; to include only series which are of major importance in each field, avoiding cross-classification and sub-classification; and to present absolute rather than derived or adjusted data. These standards were not intended to be, and have not been, rigidly adhered to. None the less, allowing for an appropriate amount of flexibility and for the compromise of initial ideals in the face of practical difficulties, they define the broad character of the volume and explain the omission of much detail.

Analysts of business fluctuations will find their need for monthly and quarterly statistics briefly recognized in Appendix I, which presents 30 such series selected by the National Bureau of Economic Research. The series were chosen, as no doubt they should have been, for their representativeness and are, for the most part, familiar and accessible. Their assemblage as a compact unit, together with careful descriptions and source references, is undoubtedly a service but this appendix must be regarded as a statistical aperitif, to whet the appetite, rather than a major contribution to the cause of business cycle analysis. Researchers in this field will, nevertheless, find the volume useful. Many of the 3000 annual series are available elsewhere in monthly or quarterly form, and the descriptive texts accompanying the annual data can be extremely useful as guides to sources and aids in interpretation. They would have been even more useful for this purpose if information concerning the existence and time-coverage of parallel monthly and quarterly data had been systematically provided.

Budgetary limitations confined selection of annual and census-period series primarily to data readily available in federal agencies and a few additional quarters. The Bureau of the Census was able to engage in little new research of its own, and the conditions of compilation made it impracticable to take full advantage of the research already performed by others. That this was so is unfortunate, but the decision to bring out the Sourcebook in immediately useful, though incomplete, form was undoubtedly wise. Some of the data included were already available in more detail in special-purpose publications, such as the *National Income Supplement* (Dept. of Commerce), *Agricultural Statistics* (Dept. of Agriculture), and *Banking and Monetary Statistics* (Federal Reserve). These have been extended or supplemented with data from less accessible sources.

The scope of the Sourcebook as it stands can best be pictured by comparing it with the Statistical Abstract, which it is designed to supplement. Whereas the 1948 edition of the Abstract contains 32 topical chapters, excluding appendices, the Sourcebook contains only 14. The subjects of four chapters in the Abstract have been omitted entirely—Crime, Climate, and Territorial Commerce presumably because of the low priority of their claims to space, and Social Security because of the recency of the data. Material in four other chapters has been covered only incidentally. References to scattered series appearing in the Abstract under Education, Communications, Military and Veteran Affairs, and Distribution will be found in the subject index of the Sourcebook but these topics have not been treated in any systematic way. Owing to greater consolidation, the subject coverage of the Sourcebook's 14 chapters is closely similar to that of the Abstract's other 24, but much of the latter's refinement of detail, especially regional and non-time-series data, has been sacrificed to gain historical depth.

The editors suggest that it would be desirable to include in a future edition additional selections of the less readily available series, more "lapsed" series, and series in additional but unnamed fields. Some of the omitted or sketchily treated topics mentioned above are promising candidates for future expansion of the subject coverage. Indeed, it is not immediately apparent why social security data were not included in the present edition by way of exception to the general time-coverage rule. The revised Department of Commerce series on National Income and Gross National Product have been included, for example, even though they run back only to 1929. Nor is it clear, in view of their relevance and ready availability, why the census figures on school attendance, some of which run back to 1870, and various series compiled by the Office of Education, were omitted. They would have fitted well into the chapter on Government.

On the credit side, one may record two instances of bringing inaccessible series within easy reach. One is in the chapter on Wealth and Income, which brings together from obscure sources several estimates of national wealth and its components, including the contemporary estimates of Blodgett for 1807 and earlier years. The descriptions of the data are adequate to warn the unwary interpreter and to guide the careful student along fruitful paths. The second noteworthy contribution is in the chapter on Balance of Payments and Foreign Trade. Here are reproduced in summary form the pioneering estimates of Bullock, Williams, and Tucker hitherto available only, to this reviewer's knowledge, in the scarce 1919 issues of the *Review of Economic Statistics*. Again the descriptions have been prepared with care. The assemblage of less well-known data from multifarious or scarce sources into compact tables has occurred in other cases too numerous to identify and is one of the Sourcebook's most useful contributions.

The descriptive notes comprise nearly a third of the volume's bulk (the plan called for a higher ratio of text) and are designed to be as important a contribution as the statistics. For the most part this aim has been achieved, in some cases with notable success. The quality is uneven, however. The Census

Bureau was unable, or did not attempt, to hold its cooperators—mostly other government agencies—to rigid standards. The result is a lack of consistency, precision, and clarity in the selection and treatment of information to aid users of the statistics. At a minimum, users should expect to find (1) a precise statement of source; (2) unambiguous definitions of terms; (3) an indication of reliability (which might be satisfied by a statement of the compiler's degree of confidence in the data but would ordinarily require elucidation of the basis on which estimates were prepared, of the nature of reporting systems for recorded data, and of homogeneity and other characteristics affecting interpretation); and (4) specific explanations of discontinuous changes in order of magnitude. Of these four requisites, only the first appears to have been fully satisfied.

To mention a few deficiencies, value figures for mineral production are frequently presented without indicating the degree to which the materials had been processed up to the point of valuation, which varies from case to case; also, it is not always clear whether production figures for smelters and refineries include or exclude imported materials. The utility of several series running back to the 18th and early 19th centuries has been diminished by limiting the description of the early data to a citation of source only. If it is worth devoting a thousand words to describing the vagaries of the statistics of gold production since 1792, one is certainly entitled to have his curiosity satisfied concerning the basis for early estimates of bituminous coal production, and of raw cotton production for the precensus period, 1792-1838; or to receive a hint concerning the manner in which figures for the assets and liabilities of Colonial and State banks, 1774-1833, were compiled. Non-specialized users of medical school data will be grateful for textual comment concerning the dubious accuracy of pre-1900 figures and the reasons for certain sudden changes in magnitude. Users of other series may wish that this type of aid had been introduced more frequently.

The format of the Sourcebook undoubtedly received careful attention. But what was the reason for placing the entire descriptive text at the beginning of each chapter instead of having the general and specific notes precede the particular groups and tables to which they refer? The present arrangement is less convenient and conducive to careless disregard of essential commentary. The cross-reference system linking text and tables is, on the other hand, excellent.

A praiseworthy device of presentation is the Time-period Index, a convenient tabulation which permits one to locate quickly every series that stretches back to the 18th century, to the period 1800-1819, and so on to date. It was doubtless designed with the needs of economic historians in view. For the next edition, effort might be made to devise special purpose aids for other types of users. Series on prices, production, value, inventories, employment, wages, pay-rolls, productivity, etc. are scattered throughout the volume but the user of the subject index must refer to individual commodities or industries to determine what is available in each case. A ready reference guide to series of these common functional types would be especially helpful. Other special interests could be determined and catered to in a similar way.

In conclusion it is only fair to note that, although the Bureau of the Census carried the major financial and professional responsibility for producing the Sourcebook, it received assistance from a special committee of the Social Science Research Council and the Council's Committee on Research in Economic History. Initially, in 1945, the American Economic and Statistical Associations were jointly interested and established an investigatory committee at the instigation of Dr. Frederic Dewhurst, the originator of the idea. The interest of the two professional associations appears to have been transitory, possibly for lack of funds to carry the project through to a suitable conclusion. Whatever the reason, it may be hoped that the appearance of the Sourcebook will be made the occasion for a revival of the professional societies' interest. Many valuable brain-hours are wasted because of the horse-and-buggy techniques which still dominate the dissemination and processing of economic and other social statistics. Lack of resources will be a continuing problem unless businessmen and the Congress can be persuaded to transfer to the social sciences some of their high regard for research in the natural sciences. The professional societies, however, should not dodge their responsibility for improving both the standards of quality and the accessibility of statistics. A special committee or group, devoting itself intensively to this task, could scarcely fail to produce impressive results, especially in the field of nonstandardized monthly and quarterly series. Progress in measurement is not a sufficient condition for further rapid progress in the social sciences but it is a highly necessary and unnecessarily neglected one. The Sourcebook is a valuable step in the right direction. Its value will be still greater if those whom it is designed to serve are alive to the needs and potentialities which it suggests.

CHANDLER MORSE

Williams College

Economic Systems; Planning and Reform; Cooperation

Guideposts in Time of Change. By JOHN M. CLARK. (New York: Harper. 1949. Pp. x, 210. \$3.00.)

Works of John Maurice Clark are "must" reading for those in search of guidance on basic social problems of our age. *Guideposts in Time of Change* is no exception. Here again we find the results of the rare combination of high technical competence, wide learning in many fields of social study, and wisdom which have placed Professor Clark in the first rank of social scientists. And, thanks to the author's pains with clear, nontechnical exposition, the book furnishes to policy makers, editors, and general readers a masterly treatment of fundamental problems that is both comprehensible and succinct.

The book consists of a series of lectures given at Amherst College on the Merrill Foundation in the winter of 1947-48. It is complementary to the author's Cook lectures at the University of Michigan published a year earlier under the title *Alternative to Serfdom*. It is not a rehash of the materials in the previous volume, although much of the discussion is in the same general area of problems of institutional change and balance between freedom and authority. Many subjects treated here were not discussed in the earlier

volume, and vice versa. The opening chapters on the totalitarian threat to free societies give to this volume a somewhat different orientation. The new book devotes more attention to the problem of economic instability, and also carries much farther the explorations into certain problems, such as the relation of wages to total employment and production. Even where there is some duplication with the earlier volume, this book contains new insights and reflections that will repay careful perusal.

The seven chapters of the book seem to fall into four parts, linked together but not closely articulated. The first two chapters diagnose the nature of the totalitarian threat and give a prescription for meeting it. Setting our own house in order is a first imperative. Accordingly, Chapter III is devoted to an examination and clarification of the objectives of a free society in the present age, with special reference to American values. Maintenance of adequate job opportunities being a critical problem, attention is given to the key factors—spending, prices, and wages—in three chapters that make up about half the book. Here the author formulates a theory of wages “which might afford a basis for an economically sound wage policy” for the guidance of union leaders, managements, mediators, and arbitrators. The last chapter, bearing the arresting title “Changing Balances: Uncommon Requirements for the Common Man,” discusses the balance of motives and forces in collective bargaining and the chances of acceptance by business and labor leaders of social responsibility, including adoption of a code of principles of wage determination. It then treats balances between “planning” and freedom, self-interest and collective motives, and ideas and action in a democracy.

The book is packed with penetrating analysis, wise reflections, and challenging explorations. A reviewer can single out for comment only those things which seem to him of special importance or interest. Other readers would give a different emphasis, but none will fail to find in this book a great deal that is significant and interesting.

Clark considers the great danger to be totalitarianism as a threat to personal freedom and democracy, not economic collectivism as a threat to private enterprise. In his words,

We in this country are properly defending, not private enterprise as it is—and it is not now fully “private”—but the right to develop and modify it by evolutionary methods, or at least by free and democratic methods, into something we hope will be more sound and satisfactory than the particular stage which quasi-private enterprise has now reached, or, for that matter, any of the stages that have preceded it. All democratic forces are our natural allies, including democratic socialists. Moscow has shown itself as much their enemy as ours (p. 6).

The author believes that totalitarianism will for some time be a grave threat to the continued existence of free societies, even apart from a shooting war which he does not regard as inevitable. An aggressive Russian nationalism, long frustrated, and a revolutionary gospel offering universal salvation to individuals through absorption in a great common purpose, are implemented with dictatorial command of great resources, a complete end-justifies-means “morality,”

and a formidable set of conspiratorial techniques. This diagnosis convinced Professor Clark two years ago that the Russian drive could not be contained short of an alliance for collective self-defense, with resistance by individual countries to any entering wedges of Soviet penetration, and adequate economic aid from the United States for rehabilitation of war-torn economies. He saw, however, that this would merely gain the free nations a breathing spell in which to tackle the difficult problem of reaching a basis of understanding with Russia. During this "breather," the free nations must put their own houses in order and work toward the development of institutions and altered attitudes necessary to world peace. Russia must be convinced that her own best policy is to live and let live with the free nations, because those nations are too strong to collapse or be captured and because their system is willing and able to live and let live with the Russian system.

Here we have a penetrating and judicious treatment of the totalitarian threat put in common-sense terms. The author's hope, expressed in the preface, that these thoughts would be commonplaces by the time they appeared in print has been realized, at least in considerable part, with respect to economic aid and the defensive alliance. Unfortunately, the same cannot be said with regard to the need for strengthening our democracy and our economic system by frankly recognizing defects and making improvements.

In Chapter III, Professor Clark presents, I think more clearly than before, his view of the basic problem of institutional development facing us in this transition era. The theme of history for many centuries has been, in his view, the quest for a balance between liberty and what he calls "a sense of belonging to something bigger than one's self and the psychological and material security that goes with this." In the four centuries from the beginnings of the Protestant Reformation to 1914 the dominant motif was liberty. For some centuries previously the authority and discipline of the Catholic Church had overshadowed the movement toward liberty. The nineteenth century brought an excess of individual liberty, going beyond a healthy balance. Totalitarianism is now punishing us by upsetting things in the opposite direction. We must find a better balance. And this must be fashioned in part with or out of values and institutions which we have to accept because American values are what they are, or because anything else would be administratively impracticable, or simply because they represent changes that are historically irreversible. Thus we must accept mass production and group power. We want the efficiencies of the former; and membership in labor unions or other groups fills an important psychological need of the individual, giving him the sense of belonging to something bigger than himself and security from exploitation. The following passages summarize the rest of the author's argument on this theme:

What we have to evolve is a system that will be workable, starting with great corporate enterprises and labor unions, both possessing a great deal of power to protect themselves from competitive forces, and governmental agencies exercising increasing power over the outcome. . . .

So the strategic fact of the inevitability of group power has led us to what seems the most basic economic principle of the present age and the visible future. It is that the amount of freedom we can keep is limited and measured

by the degree of responsibility with which economic power is exercised, and limitations upon it are voluntarily accepted. . . .

Irresponsible use of economic power leads either to chaos or coercion. As I have said elsewhere, a state cannot surrender to chaos, but it may lose its liberal character in combating it. So the objective is to establish ways of acting which may relieve our government from facing this hard alternative. . . .

The aim is that organized groups, of capital, or labor, should have powers that can and will be used for salutary reduction of insecurity, and that these should be supplemented by public action in the fields of social insurance and stabilization of employment, while the use of these powers to the twin ends of monopolistic exploitation and inflation should be kept to a minimum which the system can safely tolerate (pp. 62-63).

We Americans also choose evolutionary change as preferable to abrupt revolution. This means working by trial and error and not pushing change faster than the system can adapt itself. Our present choice to maintain a system that is predominantly one of private enterprise does not mean that we want to keep it just as it is, which is in any case impossible since change is endless. It means rather that "we choose to let change come in the evolutionary way." The author recognizes "genuine ground for the fear that the requirements of the modern world are inconsistent with those of a free society," but declares emphatically that if we want freedom we can maintain the essentials of it. This will require voluntary restraint and social responsibility in the exercise of economic power, and the mutual confidence that can come only from recognition by each group, and by the government, "that the other has a necessary job," and "understanding of what it needs in order to do the job." It will also require wise and effective leadership and the capacity of the people to respond to this. Much depends, too, on education, not only to give better knowledge of social problems and processes, but also to help in developing a better morality. On our chances of coming through the transition successfully the author's attitude seems to be one of restrained optimism, rather than despair or naïve faith.

The first of the three chapters on spending, prices, and wages is an excellent summary statement, clear and understandable by all, of what economists know about the problem of assuring sufficient, continuous spending to maintain full employment by one who has contributed much to our knowledge in this field. Remarking at the outset that great advances in our knowledge of how to deal with this problem have made it "hard to say anything both new and true," Clark does not here attempt to break much new ground, but presents instead a discriminating appraisal of the usefulness and workability of the principal fiscal and monetary tools hitherto discovered for dealing with the problem. Many may disagree with some individual judgments, *e.g.*, the conclusion that serious credit restrictions are likely to be postponed until their result will be to precipitate an impending recession rather than to check a boom before it goes to unhealthy lengths. But few who give hard thought to these matters will be in sweeping disagreement with Professor Clark's appraisals.

Believing that a well-behaved system of prices and wages is a necessary

supplement to the most efficacious fiscal and monetary instruments for promoting sustained full employment, Clark devotes two chapters to the perplexing questions of what constitutes "good" and "bad" behavior of prices and wages.

In a short discussion of inflation, one conclusion is that there is probably no harm in a slow, upward drift of prices averaging not more than two per cent per year, combined with short fluctuations that obscure the trend. Treatment of problems of inflation, good as far as it goes, is disappointingly brief, especially since the institutional development of the present era stressed by the author may contain a pronounced inflationary bias. Evidently he considered the question of the effects of downward price flexibility in depression worth the greater part of the lecture period.

Reductions in general prices and in particular prices, price decreases with and without wage cuts, reductions in margins above direct costs, changing relations between prices of raw materials, factory prices, and consumer prices—all these are systematically examined from the standpoint of the effect on total employment and production. The author concludes that although the effects are important, we know little about them and "can learn comparatively little about them by traditional kinds of analysis, based on the law of supply and demand for single products." His analysis, which again constitutes a concise summary of the present state of knowledge (or lack of it) on this problem, indicates why economists, evidently including Clark himself, are increasingly skeptical of the effectiveness of price flexibility in stabilizing employment and production. This is not a counsel of complete despair, however. He holds that the effects of some sorts of price reductions in facilitating private and public arrangements for stabilizing high-level demand can be predicted well enough to justify their inclusion in a combined program. The price chapter does not develop many principles of "good" price behavior but it will be valuable in keeping us on the right track and in avoiding fallacious proposals.

In the chapter on collective bargaining and wages, on the other hand, Professor Clark's principal concern is to formulate a set of principles of economically sound wage adjustments, following out explorations begun in *Alternative to Serfdom* and ideas suggested by Slichter, Dunlop, and others. Analysis of the question of economic limits on the level of wages leads him to these conclusions: (1) There is a *prima facie* case for maintenance of wages as a relatively stable proportion of national income. (2) Extreme increases or decreases in the general level of real wages would tend to reduce employment, but there is a wide range between these extremes where the outcome is uncertain. Clark suggests as possible examples of the limits an increase of wages that would cut profits in half and a reduction of wages by one-third. (3) Within the range of uncertain effects, the tendency to give the benefit of the doubt to higher wages is sound. There may be no automatic corrective for wages that are a little too low, whereas industry can generally raise prices if wages go a little too high. Here the author refers to his previous conclusion that an increase in prices averaging not more than two per cent per year is not serious. But, he warns, it is not safe to resolve all disputes in favor of higher wages,

and we badly need to gain better understanding of this problem. (4) That wages tend to rise into the zone where further increase (above the increase in productivity) means reduced employment is strongly suggested by the apparent fact that union organization and politics are geared to an annual increase in wages larger than the annual increase in productivity in the system as a whole. (5) At present, economic factors play a small part in wage adjustments and "their relation to standards of economic correctness is tenuous and doubtful."

The above points both indicate the need for formulation and use of a set of economically sound principles of wage adjustments and lead to the following principles which the author sets out: (1) The average of wages in the whole economy should increase at the same rate as the average of productivity increase. (2) Consideration should be given to the question whether current profits in the industry and in the economy as a whole are more or less than customary and whether they constitute a fair and adequate share. (3) Wage rates in the various industries should rise over a period of years approximately as much as the average increase in man-hour productivity in the whole economy, so as to maintain related rates for related types of work, with larger increases only to correct inequities between trades and industries. Prices should decline in industries where the gain in productivity has been greater than average and should rise in those where it has been less than average, except in declining industries where demand will not support price increases. (4) Temporary wage premiums to attract labor to an expanding industry or to share extraordinary productivity gains should not exceed an amount that the average gain in productivity can make up in a few years.

In the last chapter, Professor Clark examines the attitudes of management and labor and concludes that they are likely to become increasingly hospitable to the development of agreed codes for wage determination and other matters.

The author's analysis in developing his proposed code of wages will suggest many questions to economists and others. For example, is maintenance of the past proportionate division between wages and profits necessary in order to encourage sufficient capital investment for full employment? Or does maintenance of full employment require larger proportionate consumption than in the past, and hence lower profits and a higher wage and salary income? The author seems to waver between these views. Again, what sort of criteria of fair profits would command general agreement and be economically sound? As a final example, can the economy function well if wages and prices are settled more or less separately? Clark is silent on the question whether collective bargaining should or should not in any way touch prices.

Those who have struggled with questions of the sort taken up in these lectures will, however, regard this book as a notable step forward. And those who believe with the author that our mixed society can operate well only with voluntary acceptance and discharge of a considerable measure of social responsibility by unions, businesses, associations, and other groups with economic power will hope that Professor Clark's progress from the *Social Control of Business* through *Guideposts in Time of Change* will stimulate many others to work intensively on the crucial and challenging problems of developing codes

of principle, not only for wages but for price and profit policies and investment and inventory policies. More economists should turn attention to this "empty box," which is one of the emptiest and most important. Work of two kinds is required: that which brings advances in our technical knowledge and that which translates what we do know into practical codes. There is need and opportunity here for a variety of capacities and skills that will supplement and stimulate each other. To urge acceptance of social responsibility by power groups is fruitless and footless unless principles for its exercise are being developed.

DONALD H. WALLACE

Princeton University

Freedom and the Administrative State. By JOSEPH ROSENFARB. (New York and London: Harper. 1948. Pp. xiii, 274. \$4.00.)

Mr. Rosenfarb maintains "that a planned economy is inevitable in the light of the historical evolution of social forces, but that we do possess a collective choice whether to make the administrative state dictatorial or free and democratic" (p. 231). His book, therefore, is opposed to the prevailing trend of economic thinking which, under the adverse impression left by shortcomings in the war and postwar economies, identifies economic planning not merely with waste but also with despotism. The present reviewer, regarding himself as a member of the same opposition, appreciates the timeliness of a book that takes issue with the contentions of the anti-planners. But in spite of a wealth of historical and sociological material, which Mr. Rosenfarb uses with deep understanding to buttress his arguments, his book is not likely to convince the unconvinced.

The reason for this poor prospect of success in argumentation is the direction of Mr. Rosenfarb's main interests, which are not those of an economist. He is a lawyer with rich administrative experience, and a student of history and sociology. Such a background is very valuable in dealing with the problems of planning, but the primary approach to them ought to be from the angle of economics, because a clear view of the functions to be fulfilled must precede the designing of governmental machinery for their fulfillment. We are still struggling with the issue of how to fit the price mechanism into a planned economy. Therefore, we do not yet see with all the desirable clarity how far a planning government, in its efforts to carry out the plan, can rely upon the initiative of the individuals (after having set the data to which individuals will react) and where a more direct exercise of regulatory powers will be needed. Because Mr. Rosenfarb's book does not bring any progress in this direction and gives only an inadequate picture of the results already achieved in the economist's controversy on planning, his very intelligent discussion of organisational and functional problems of government will still be met by the critics with the question: Are the democratic procedures which the author recommends really compatible with the nature of economic planning? To be sure no detailed blueprint of the economics of a planned system can be drawn up in advance, and insistence on an impossible degree of precision in the "plan for planning" is a favorite but illegitimate weapon of the

anti-planners. But to blunt this weapon, the proposed economic system should be pictured as lucidly as it is possible at this stage of the debate, and all considerations of political methods should be integrated into that picture.

Closely connected with the prevalence of political and sociological interests is a fault of the book which is at the same time the cause of one of its merits: Mr. Rosenfarb is trying to do too much on a very limited number of pages. His subjects range from the advantages of the British as compared with the American form of democracy to the rôle of the family in primordial society and to the intricacies of the Taft-Hartley Act. This broad approach prevents the author from concentrating the force of his reasoning on the decisive points but also makes his book very stimulating for anyone interested in the interrelationships of sociology, political science and economics.

CARL LANDAUER

*University of California,
Berkeley*

Business Fluctuations; Prices

Fluctuations in Income and Employment. By THOMAS WILSON. 3d ed. (New York and London: Pitman. 1948. Pp. x, 216. \$4.00.)

Business cycles are the focus of two related issues of method in economics: verbal versus mathematical expositions of theory and historical versus econometric techniques of empirical investigation. Mr. Wilson's book is divided equally between a review and synthesis of modern business cycle theory and a study of cyclical fluctuations in the United States from 1918 to 1937. His theoretical inquiry, Part I, is verbal rather than mathematical. His empirical study, Part II, is, in his words, "of a direct nature" and avoids "involved" econometric techniques. Mr. Wilson is, quite properly, too much interested in his subject matter to offer any extended defense of his methods; and he neither excludes other techniques nor claims finality for his conclusions. But since he uses the tools of his choice with the greatest skill, his book illustrates well both the merits and the limitations of non-mathematical techniques. The advantages, which Mr. Wilson exploits to the full, are flexibility and inclusiveness in the explanation of historical events. The limitations, which even Mr. Wilson cannot escape, are the difficulties of tracing merely by inspection the chains of causation in a complex system.

The theoretical half of the book should be a valuable text for students of business cycle theory. It begins with a clear and balanced summary of the "classical"—"Keynesian" debate concerning effective demand. The exposition of the theory of interest rates is particularly helpful. The author brings equal illumination to the disputes surrounding the relation between consumption and the demand for investment goods. The high point of the three chapters on this subject is a brilliant refutation of the paradoxical conclusions Professor Hayek draws from the "Ricardo effect." After an inconclusive discussion of the effects of changes in money wages and a skeptical evaluation of the importance of monetary forces, Mr. Wilson presents his own synthesis of trade cycle theory.

The core of his theory is an accelerator-multiplier model of the cycle. Mr. Wilson is seeking a model with a self-generating cycle, but it is by no means

clear from the relationships he postulates that his model will reverse its direction. Because he avoids an exact formulation, he is not led to specify the lags or non-linearities required to produce cycles from an accelerator-multiplier system. Moreover, since Mr. Wilson relies heavily on the acceleration principle throughout the book, it is unfortunate that he perpetuates the error of relating investment demand to changes in the output of consumption goods alone; after all, the production of investment goods also requires investment goods. Defects in Mr. Wilson's theoretical model are not serious because the eclecticism of his approach permits him to depart from it freely. A large proportion of investment he attributes not to current changes in output but to technical progress. And for both turning-points, he lists ten alternative hypotheses.

Part II is an excellent brief history of United States business fluctuations between the wars. The author has an enviable prose style, and he is a master of the difficult art of making statistical material readable. Possibly because he views American trade cycles from overseas, Mr. Wilson is able to appraise government economic policy with a detachment and balance of which few American economists are capable. He does not find it necessary to blame the disappointing recovery of the 'thirties either on the New Deal or on secular stagnation.

Part II is more than good economic history. Mr. Wilson has attempted to employ the theory of his Part I to explain the economic fluctuations of the period and to confront competing theoretical hypotheses with the facts. Each phase of each cycle—especially each turning point—is examined to determine the consistency of various theories with observed data. In addition, Mr. Wilson undertakes to explain differences between cycles; for example, why was the recession of 1923 short-lived and that of 1929 prolonged?

This empirical study complements but is no substitute for econometric investigation. Mr. Wilson is able to weed out many theories as inapplicable to a given period by showing that they are obviously inconsistent with observed time series. But he is usually left with an embarrassing number of possible hypotheses. Lacking any quantitative estimates of the structural relationships of the system, he cannot evaluate the relative importance of these hypotheses. For example, when income and consumption both decline, Mr. Wilson cannot tell whether the fall in consumption was induced by the decline in income or was an autonomous contributor to the change in income. On the other hand, Mr. Wilson is better able than an econometrician to exploit information which is not easily quantified: *e.g.*, the state of confidence, political events, occurrences in particular industries.

The final two chapters—the concluding one added in this edition—contain Mr. Wilson's ventures into policy recommendation and prophecy. As a prophet, Mr. Wilson so far deserves honor. In the first edition in 1941, he did not succumb to the fashionable pessimism concerning postwar economic prospects. Neither does he predict secular inflation now. Whether or not they agree, readers of this book will appreciate the perspective of Mr. Wilson's outlook.

JAMES TOBIN

Harvard University

Money and Banking: Short-Term Credit; Consumer Finance

The Veil of Money. By A. C. PIGOU. (London: MacMillan. 1949. Pp. viii, 150. \$2.50.)

Professor Pigou in his latest book attempts to throw some new light on the old question of the significance of money in determining income and employment. Part I is devoted to a general discussion of the institution of money with special reference to the pricing mechanism and inflation. Part II, under the title, "Money Income," contains the substance of the book—a model designed to demonstrate the predominant factors determining the magnitude of money income.

Economists generally have regarded the problem so complicated as to necessitate simplifying assumptions. The most significant of the simplifying assumptions on Pigou's part is his abstraction from changing expectations. "... I shall leave out of account the fact that the several governing factors . . . are, on occasions, expected to be different in the future from what they are now" (pp. 65, 66). Next the predominant real factors influencing the magnitude of total money income are set off against the purely monetary factors. The real factors include the demand and supply of investment goods, labor efficiency and industry's monopoly power. Monetary factors, on the other hand, are conceived of as comprising the stock of money and its velocity in relationship to the rate of interest and the level of money wage rates.

The income velocity of money (or, in another sense, the real balances that people wish to hold) is determined in part by the transactions, precautionary and speculative attitudes of holders of cash, as also by the availability of "near" money. Velocity is an increasing function of the rate of interest (r) and a decreasing function of the portion of purchasing power accruing to non-wage earners, and the size of real income. The stock of money in circulation on the other hand, tends, via central banking policies, to be an increasing function of r and the purchasing power available to non-wage earners.

The demand curve for new real investment is a decreasing function only of r , while the supply of real savings is an increasing function of r , the size of real income and the proportion of purchasing power held by non-wage earners.

With these relationships established, Pigou's model is set to work. Although there are many refinements and modifications in his text, his main theme may be summarized briefly here. An increase in the demand for investment goods increases r , the argument proceeds, and thus increases both the velocity and the stock of money in circulation. This generally entails a higher wages bill; and, if money wages are constant, higher employment and higher real income result. If the income of non-wage earners increases, however, real savings increase, thus reducing r and, in turn, money income. This latter consideration minimizes the force of the initial impulse leading to a higher money income. Again, if an increase in investment activity does produce a higher real income, the resulting expansion of real savings would impose another limit upon the increase in money income.

On the basis of Pigou's formal model, an increase in money wages necessarily reduces employment and real income (p. 106). But when Pigou turns

to changes in money income not the product of money wage changes, his conclusions are quite different: *Stability* of money wages serve then only to exaggerate the cycles of employment (p. 118). But two forces may be employed to mitigate this latter form of employment instability, the control of wages and the regulation of the stock of money in circulation. This then is perhaps the basic conclusion of the work: that instability cannot be avoided save by the deliberate adoption of flexible wage policies and the judicious control of the money supply.

Attention should be directed to Pigou's unusual definition of inflation, a situation in which "money income is expanding relatively to the output of work—not the output of goods and services (real income) . . ." (p. 14). This effort to emancipate the concept of inflation from considerations of productivity seems intended to concentrate attention on the special interest of the writer, the level of employment. The further assertion that money "does not compromise any of the essentials of economic life" (p. 25) should also be interpreted in the light of this same special purpose. Even though Pigou points out that "the raiment (money) greatly affects the comfort of the body," one might well wonder if the structure of modern capitalism, at least in its free form, could long survive without it. But Pigou seems impressed with the necessity of giving adequate weight to the real factors that operate beneath the money surface, even though in his own model he points out that money is, indeed, much more than a veil.

The abstraction from expectations greatly weakens the applicability of Professor Pigou's conclusions to the economic world in which we live. For the most part Professor Pigou is content with an analysis of the *shape* of his functional relationships, but their quantitative importance, *viz.*, their *position*, in his own words, depends in large part on expectations. But perhaps Professor Pigou feels that it is better to offer modest conclusions on the basis of astronomy—working with more dependable variables—than to face the more spectacular issues of public policy on the basis of astrology—working with the erratic and often imponderable elements of expectations.

PAUL E. SULTAN

Cornell University

Money and Banking. By JAY L. O'HARA. (New York and London: Pitman. 1948. Pp. xx, 671. \$4.75.)

This textbook is written for the beginning student in money and banking. The exposition is clear, free from excessive factual detail, expressed in simple language. At the end of each chapter is a summary of contents, a set of questions, and suggestions for further reading. The student should not find this presentation difficult to understand. As an introduction to money and banking this book should prove to be a welcome addition to the texts on this subject.

A short historical, descriptive, and theoretical treatment of money is followed by a more extended discussion of banking. Major emphasis is placed on the commercial banking system since it is considered ". . . the source of

virtually all of our supply of effective money" (Preface, p. vii). The utilization of considerable space to describe noncommercial banking is justified on the ground that commercial banking "... can be fully understood only as non-commercial banking functions are studied in some detail" (Preface, p. viii). A condensed history of banking in the United States is presented as a background for a better understanding of contemporary banking.

The objectives of monetary policy are briefly considered at the end of a chapter dealing with stabilization of the price level by means of the gold standard, bimetallism, credit control, one hundred per cent money, and other methods. Although emphasis throughout the book is on the value of money, stabilization of the price level is subordinated to maintenance of full employment. The "... achievement and maintenance of full employment should ... occupy a position of primacy as the objective of monetary policy" (p. 492).

As one means of realizing high level employment, "moderate increases in the general level of prices ..." are advocated (p. 493). This recommendation is based on the argument that businessmen anticipating greater profits as a result of price increases will be stimulated to expand employment and production. In the analysis no distinction is made between competitive and monopolistic conditions. The possibility that rising prices will cut down the physical volume of sales of goods in the market and thus destroy opportunities for employment is not considered.

A serious weakness of the book is the failure to give more consideration to Federal Reserve policy. Only occasional references are made to the System's past experience in realizing (or failing to realize) its objectives through the use of credit controls. The treatment of the Federal Reserve System is for the most part descriptive and mechanistic, consisting of a description of the structural organization of the System, an exposition of Federal Reserve Bank functions, and the mechanics of credit controls.

In the chapter on Keynesian economics the following policy is recommended. "The principal social responsibility of those in control of the supply of effective money is so to manage that supply as to keep rates of interest sufficiently below the marginal efficiency of capital to insure a rate of investment that will provide full employment. At the same time, interest rates must be prevented from falling to a level so low that savers prefer to hold their wealth in money form rather than offer it for productive employment" (p. 466). Precisely how to choose and set rates of interest that will harmonize with the above requirements is not revealed. The presumption is that, if proper rates of interest are not (or cannot be) established, the effects will be evident in "... declines in effective demand, output, employment, and money income, that result from the low level of investment when private entrepreneurs refrain from putting to work all of the funds that are being saved" (p. 464). The solution to this problem is "... simply that what the private sector of the economy fails or refuses to do must be done by the public sector. ... it is necessary for the government to step in and borrow the otherwise idle hoards of savings. ... The funds that they (*i.e.*, government) borrow and spend *will* find their way into the markets in effectuating a higher level of aggregate demand ...," employment, and income (pp. 464-65).

The chapters on foreign exchange discuss the functions of banks in financing foreign trade, determination of foreign exchange rates under both gold and paper standards, foreign exchange practices growing out of depression and war, development of international monetary cooperation, establishment and operation of the Bretton Woods institutions, and American financial aid to foreign countries.

In the analysis of the determination of the value of money the transactions and cash-balance equations discussed under the title of "conventional approaches" are found to supplement one another. The Keynesian analysis is isolated for special treatment in a separate chapter under the title of "income approach." Keynesian theory seems to be utilized primarily to explain the determination of the value of money and incidentally to explain changes in the level of employment and the national income.

A variety of contemporary problems is considered in the final chapter. The methods and effects of war finance, postwar inflation, postwar effectiveness of the traditional methods of credit control by the Federal Reserve System, stabilization of the economy through a combination of monetary and fiscal policy are discussed very briefly.

RAYMOND H. LOUNSBURY

Dartmouth College

Volkswirtschaftliche Theorie der Liquiditaet. By OTTO VEIT. (Frankfurt M.: Vittorio Klostermann. 1948. Pp. 167.)

This book is not only a valuable indication of the present state of monetary theory in Germany, but it is also a major contribution to the field. The author, a professor of economics at the University of Frankfurt, is also president of the Land Central Bank of Hesse, and as such also a member of the board of directors of the Bank deutscher Laender.

The purpose of the study is to clarify a series of economic problems by fitting them into a framework organized around the concept of liquidity. Liquidity is defined as "die durch Tauschgueter repraesentierte Verfuegungsmacht ueber Bedarfsgueter" (p. 12). Every commodity has some liquidity characteristics; to the extent that they predominate, the commodity is a "Tauschgut." It follows that the demand for liquidity need not be related in any definite way to the demand for money. For ordinarily money is merely at one extreme of the spectrum: it is the only commodity which is always and exclusively "Tauschgut" and never "Bedarfsgut"; goods in process of production are frequently at the other extreme. Both the level of liquidity and the degree of liquidity of commodities depend on such factors as the organization of the economy, customs and habits, the level of income (the proportion of savings is uncritically assumed to increase as national income increases [p. 27]), and the stage of the business cycle.

The purpose of liquidity is the acquisition of "Bedarfsgueter" by exchanging them for "Tauschgueter" (p. 14). The desire for liquidity is, in turn, explained in terms of the motives listed by Keynes in his explanation of liquidity preference. (The author states in his introduction that due to war and postwar conditions, more recent foreign literature was sometimes not

available to him.) The desire for liquidity as an end in itself is considered strangely as being pathological (pp. 16, 137), even though fear of the future and the desire for independence—which are hardly pathological—are given as reasons. Such a desire, if made effective, is supposed to block the circular flow of the economy; perhaps it is this result which is considered pathological.

The above concepts are then applied to various monetary problems. The control of money provides the possibility for the creation and distribution of liquidity. Money is treated as a veil which hides the basic characteristic of the concept of liquidity, but does not alter it. Interest is the price which regulates the market for liquidity: it keeps the supply of and demand for liquidity in equilibrium. Interest is created by renouncing consumption in favour of liquidity, and at the same time renouncing a high degree of liquidity; the lower the degree of liquidity, the higher the interest rate. Interest is thus the reward for non-spending *and* for its investment in relatively illiquid form (not-hoarding). The author sometimes comes dangerously close to regarding willingness not to spend *nor* to hoard as sufficient (p. 99); but such willingness is sufficient only in the presence of adequate demand for liquidity. In fact, the requirement of demand is somewhat neglected throughout. For example, the discussion of inflation and deflation (p. 54) is not very helpful in the absence of specified income assumptions. Similarly, the statement that demand for and supply of liquidity must be in equilibrium in order for the economy to be in equilibrium is not very useful without an analysis of the kind of equilibrium and the interrelationships between the latter and liquidity.

In the final chapter the apparatus is applied to some problems of international trade. It is shown how the "automatic" gold standard might present an ideal possibility of equalizing liquidity between nations, given the necessary assumptions and provided the rules of the games are adhered to by the participants. It is also indicated how institutions like the International Monetary Fund could fulfill a similar function.

Though a short review can hardly do justice to the stimulating analysis, it is hoped that it has at least whetted appetites.

HANS A. ADLER

Harvard University

Business Finance; Investments and Security Markets; Insurance

Government Financing of Private Enterprise. By DOUGLAS R. FULLER. (Stanford: Stanford University Press. 1949. Pp. viii, 206, \$3.00.)

This is a study of the financing problems of business, particularly small business, and the government's rôle in resolving them. Although readable and informative, it is repetitious, contains considerable background material not directly related to the main topic, and suffers from a few organizational and structural weaknesses.

Since the case for government financial assistance to business rests largely

on the assumption that there are significant gaps in the existing private credit mechanism, Dr. Fuller begins his study with a brief examination of this premise, followed by three chapters of historical background information, domestic and foreign. The remainder of the volume is largely devoted to an analysis of government credit assistance to business since 1934, particularly through the Federal Reserve banks, Reconstruction Finance Corporation, and the wartime V-loan program, for the purpose of determining the need for continuation of such programs or the development of new programs.

The volume of business lending by the Federal Reserve banks approximated that of RFC during the years 1934-1937, but after liberalization of the RFC Act in 1938, RFC became the dominant government agency in this field. The most impressive fact concerning prewar experience under these two programs, according to Dr. Fuller, is the small volume of loans. He rules out application of unduly onerous terms and conditions by the administering agencies as a possible explanation for this, since "no trustworthy evidence has been introduced to prove that the standards applied were appreciably stricter than was necessary to conform with the instructions of Congress that loans were only to be made when reasonable assurance of repayment existed." The explanation is found instead in a lack of unsatisfied demand for medium-term credit principally because of the growing willingness of private lending institutions to extend term credit. Heavy postwar lending by RFC under its Blanket Participation Program (instituted in 1945 and terminated in 1947) arose both because of increased demand, especially to finance fixed-asset expenditures, and because RFC's participation terms proved attractive to private bankers.

The discussion of wartime government financial assistance, particularly the V-loan program, is clearly the most authoritative section of the book, reflecting careful study and familiarity with operating details gained by the author through first-hand experience. Several points commonly suspected concerning this program are confirmed, particularly the high average guaranty percentage (90 per cent being the most common), which generally showed little correlation to the strength of the loan, and the greater liberality of the War Department than the Navy Department or the Maritime Commission on eligibility, amounts, and maturities.

Particular significance is attached to the V-loan program, not only for its important contribution to increased production but also because the experience which private bankers gained under this program contributed to their willingness and competence to meet present-day needs. Important in this regard were stress on ability rather than collateral, experience in budgeting loan requirements and repayments, and emphasis on the importance to smaller borrowers of adequate technical assistance and accounting procedures. At the same time, the author recognizes the threat to private banking in the new respectability of a government guaranty, but he feels that reckless use of such guaranties can be prevented by requiring substantial private-bank participation.

The author's major conclusions and recommendations are as follows:

1. Little has been done, either by government or private agencies, to remedy

the serious gap in availability of equity and long-term loan capital for small business. However, he regards government provision of risk capital incompatible with free enterprise, and commercial-bank investment in such capital incompatible with the demand nature of their liabilities. His proposed remedies for this gap accordingly include revisions in the tax structure to revive former major sources of such capital, and creation of new private local financing institutions.

2. Although government experience prior to 1945 indicates no serious gap in medium-term financing, the large volume of RFC loans of this type since that time suggests the existence of a gap of minor proportions. (This gap may be more significant than Dr. Fuller concedes, as indicated by the sharp increase in RFC lending during the past year.) To assure adequate medium-term financing, he recommends continuation of RFC (but not Federal Reserve) authority, both as a competitive spur to private lending institutions and for standby purposes.

3. With respect to short-term credit, government experience provides "convincing evidence" that no significant gap exists.

4. Finally, he recommends two collateral government aids to small business investment: Exploration of methods for reducing costs of financing and provision of increased technological and advisory services.

The almost simultaneous appearance of this volume and A. D. H. Kaplan's study of *Small Business: Its Place and Problems* is a reminder that facilities for coordination of economic research may still be inadequate. On the financing issue, both volumes cover much of the same ground and arrive at many similar conclusions and recommendations. The Fuller volume, however, in most respects is more comprehensive and fills a long-felt need for an examination of the necessary rôle of government in business financing. But there are numerous additional problems in this general area which might have been studied with the same investment of time and resources had this overlap been avoided, including a detailed examination of standards employed in government lending programs.

JAMES B. ECKERT

Washington, D.C.

Business Finance. By CARL A. DAUTEN. (New York: Prentice-Hall, 1948. Pp. xiii, 551. \$4.75.)

This book treats the same general topics as are treated in an ordinary finance text but it differs from typical texts in that it places the greater emphasis upon those aspects of finance which are of most concern to small business enterprises. Within this field much more attention is given to the financing of current operations and less to the raising of initial fixed capital than is customary. This statement does not imply that Dauten neglects the latter subjects but only that he devotes a greater amount of space to discussing problems that confront business enterprises continuously than to those which need to be solved but infrequently.

Teachers of conventional corporation finance courses will probably find

the book most useful to students as supplementary reading on sources of short-term capital. For example, an entire chapter is devoted to methods and procedures for obtaining current funds from banks, another to describing term loans, and a third to R.F.C. loans. Often the treatment is detailed, even to the extent of presenting an exhibition of forms and a list of addresses, (for example, two pages are used to list the addresses of the thirty-one R.F.C. agency offices).

The volume incorporates and makes copious use of much recently published material dealing with the problems of small business. Among other things it contains brief summaries of many of the pamphlets published by the U.S. Department of Commerce, and repeats the findings of the T.N.E.C. investigations. The author draws heavily on the writings of Neil Jacoby, Raymond Saulnier, Tynan Smith, Charles Schmidt, and other recent writers who have treated special financing procedures and problems.

Business Finance is not suitable for use as a text in corporation finance, largely because of its almost exclusive concern with small enterprise but also because the treatment is rather elementary for college level use. It is the kind of book which one about to start a small business should read and keep accessible. Within the scope of its objective—an explanation of the principles and methods of finance applicable to small business enterprises—the author has done an excellent job and has supplied a book that fills a gap in existing literature.

WILFORD J. EITEMAN

University of Michigan

Surety Rate-making—A Study of the Economics of Suretyship. By JULES BACKMAN. (New York: Surety Association of America. 1948. Pp. xix, 492.)

This book was prepared by Dr. Backman under the sponsorship of The Surety Association of America, an association of stock companies writing almost three-fourths of the fidelity and surety bond business. Dr. Backman was given full control of the study and, judging by the evidence within the report, he has produced an unbiased, objective analysis.

While the book is of greatest concern to those specializing in suretyship and insurance, it is of interest to economists as a study in pricing in a field where price determination is attended by unusual difficulties and where governmental regulation is assuming a more important rôle. Although it is difficult to omit any sections of the study, the economist, as compared with the insurance specialist, will find most valuable, Chapters 4, 8, 11, 12 and 14 on "The Rating Bureau and Competition," "Cyclical Aspects of Suretyship," "Principles and Mechanics of Insurance Rate-making," "Surety Rate-making," and "Surety Rate-making: Recommendations." In these chapters are included the author's principles and theories of pricing. A good case is made for regulated cooperation rather than free competition in surety rate-making. In other chapters, the author provides the background for the study and develops and analyzes the statistics on which his conclusions rest.

A wealth of statistics in the field of suretyship is presented in the book. These will be of greater value to the insurance and suretyship specialist than to the economist. Some had been published previously in scattered sources, but many are available here for the first time. Some of these are the heretofore unpublished results of studies made by surety companies for their own information; some are the results of special inquiries and analyses of their experience made by several companies purely for this study. Throughout the work, the sad lack of uniform, detailed statistics in the industry is evident. Dr. Backman has been forced to use data which, having been compiled on varying bases by different companies, is of questionable comparability. Suggestions are made to improve the statistics to be gathered in the future. In the area of expense statistics, improvement no doubt will result from the uniform accounting regulation of New York under which companies now are operating, but only since January 1, 1949.

One point which the author makes in a number of places (to cite just a few, pages 9, 291, and 314) is that, "surety bond prices are among the few prices which are now the same or *lower than* before the war." Further, "a price decline in such a sea of inflation is an achievement worthy of note." This emphasis seems unwarranted and incorrect. True, rates have been reduced. True, expenses as contrasted with losses consume a larger proportion of the premium dollar than in most insurance lines. But, exposures have increased so that larger amounts of coverage are required for the same protection. Whether prices, as distinct from rates, have actually decreased or not, depends upon the relationship between the decline in rates and the amount of coverage now required for the same protection as heretofore. In any event, the decline in surety bond prices is not as great as may be inferred without this qualification. Furthermore, it is not a very remarkable achievement, since, as the author points out elsewhere, the postwar period has been one of very low loss ratios and very high underwriting gains, even though the companies have been operating at the lower rate level.

There are two possibilities in the surety rate-making problem which do not seem to have been adequately explored. One, not even given passing mention in the book, is the possibility of charging a policy fee to cover fixed expenses, since the expense factor is predominant and heavy expenses in many bonds are unrelated to the bond penalties, and a premium to cover the hazard and variable expense element. The other is the possibility of applying a "pure premium" technique, similar to that of workmen's compensation. This is a possibility if measures of exposure can be determined for each type of bond. For many such, measures can be determined and for these at least the method would be applicable. The fact that very long term experience must be used does not preclude this method. The fact that there are many classifications with very small volumes of experience has not proved an insurmountable handicap in workmen's compensation insurance.

C. M. KAHLER

University of Pennsylvania

Public Finance

Current Financial Problems and the City of London. Published for The Institute of Bankers by Europa Publications Limited. (London: 39 Bedford Square, W. C. 1. 1949. Pp. 219. 15s.)

The series of thirteen papers contained in this volume were originally presented as lectures at the International Summer School of the Institute of Bankers, held at Oxford, England, in September 1948. With few exceptions, the authors are financial journalists, among them several of the leading editors of, and contributors to, Britain's renowned financial press, including the well-known editor of *The Banker*, Mr. W. T. C. King. There are also papers by Roy Harrod, R. S. Sayers, and Sir Henry Clay, to mention some of the professional economists who were invited to lecture at the school.

While this symposium is addressed primarily to the student of London's financial mechanism and the institutional structure of British banking, several studies contain comments of more general interest to American economists. This is particularly true of the paper by W. F. Crick, general manager for research and statistics of the Midland Bank, whose skillful exposition of the rôle of monetary policy in postwar Britain contains much of relevance to other "mixed" economies in Europe. Nobody will be surprised when Mr. Crick visualizes monetary policy as playing a relatively small part among other factors in the shaping of a comprehensive economic policy in Britain. Yet Mr. Crick very properly points up the fact that monetary policy and its twin brother, budgetary policy, can together still be of large importance in a semi-controlled economy, depending upon whether they are in harmony or conflict with the trend of physical controls.

Roy Harrod, in a paper entitled "The Financial Position of Britain and the Balance of Payments," comes forward with a number of suggestions that run counter to generally accepted doctrines. There is now wide agreement both in this country and in Europe that Britain's salvation, no less than that of Western Europe as a whole, lies in a substantial expansion of its plant and equipment. Mr. Harrod, however, is worried over the current rate of capital investment in Britain. The country's steel program, he observes glumly, is grossly excessive, and according to his gloomy forebodings the mechanization of the coal mining industry will lead to acute unemployment before many years have elapsed. He reiterates his familiar thesis that the roots of Britain's balance of payments difficulties lie essentially in excessive capital outlay and that investment expenditures should be cut sharply. American observers, alive to the urgent need for modernizing and expanding much of Britain's industrial plant if that country is ever to achieve financial equilibrium, will find it difficult to accept this line of reasoning, from a longer-run point of view at least, though they may readily agree with Mr. Harrod's counsel that certain investments could well be postponed until Britain's general position has eased.

Professor R. S. Sayers, in his brief lecture entitled "Some General Aspects of Central Banking," calls attention to some worthwhile fields of action that central banks could cultivate with advantage to themselves and

their economies. It is the function of central banks, Professor Sayers maintains, to seek out the sensitive spots in their economies and be ready to adopt novel weapons to deal with them. Professor Sayers enters controversial ground when he argues that central banks, having close contact with all parts of the financial system, are institutionally better adapted than Treasuries for the actual exercise of control. But one may readily agree with Professor Sayers' suggestion that central banks, if they wish to be as useful as possible, must not be unduly conservative but must develop new techniques to meet new situations. These are doctrines that have successfully been put into practice in recent years by the authors of central bank statutes in various parts of the world.

Sir Henry Clay's valuable appraisal of the evolution of the sterling area reaches the conclusion that Britain derives great advantage from its relations with the rest of the sterling area and that it would be folly to adopt any policy that aims at breaking it up. Now that much respectable opinion looks at the sterling transferable-account system as one of the principal devices for creating a new intra-European payments mechanism, many a reader may well have expected a somewhat more positive approach toward the future of sterling in international, and particularly, European trade.

In many circles, it has lately become fashionable to speak of the Bretton Woods "twins" in a deprecatory tone. Mr. Paul Bareau, deputy city editor of the *News Chronicle* and frequent contributor to financial magazines, has successfully resisted this temptation in his paper on "International Banking Organizations." Of the two institutions, the Fund comes out much better than the Bank in Mr. Bareau's appraisal. He acknowledges that the United States government has used its dominant voice in the affairs of the International Monetary Fund wisely and constructively. Mr. Bareau concludes that while the Fund has compromised on some fundamental issues of its code and has been guided too much by political considerations, it has nevertheless performed a very valuable function by keeping alive a modicum of cooperation in the field of international monetary relations.

In his evaluation of the Fund, Mr. Bareau very properly points out that the economic climate of the postwar years could hardly have been less favorable to the Fund's objectives, but this is perhaps even more true of the Bank. When Mr. Bareau feels unhappy over the fact that the Bank lacks a spirit of adventure and has been too much concerned over the interests of United States investors, who after all put up much of the Bank's loanable funds, he appears to forget that international investment, to flow smoothly, persistently, and on a large scale, needs a political and economic environment radically different from that prevailing during the last few years. Before charging the Bank with unimaginative leadership and lack of adventure, we should carefully consider the Bank's contention that it has found a great lack of soundly conceived projects suitable for its financing. The fact that it has refused to put up money for projects that it considers neither sound nor productive in the light of the present disequilibrium in the world economy provides very little justification for Mr. Bareau's criticism that the Bank "tried to eschew the adventurous."

For the American reader who is interested in an authoritative study of London's financial facilities, Mr. King's paper on the London Discount Market contains much valuable information. This is also true of Mr. Steffenburg's lecture on "Merchant Banking in London" and the study by David Sachs entitled "Survey of the Financial Institutions of the City of London."

F. H. KLOPSTOCK

New York, N.Y.

International Economics

Plowshares into Swords. By OSWALD P. CHEW. (New York: Harper. 1948. Pp. xv, 227. \$3.00.)

This book undertakes to indicate the adjustments that are needed in the world by reason of the fact that the United Kingdom, Belgium, Germany, and neighboring countries in the Western world, and Japan in the Eastern world, by stealing a march on the rest of the world, were able to develop far-flung markets for their factory products, and now are faced with the loss of some of their former markets because the rest of the world is slowly industrializing. Others have written on this subject, but none from Oswald Chew's point of view, which is that of a person who has spent his life in the public information service of the United States Department of Agriculture, and, in consequence, has come to see events and developments very sharply in an agricultural focus. Chew writes with the vigor and clarity of a successful journalist, and hence even a sophisticated reader needs to keep his wits about him or he will lose his bearings.

This is not to say that there is little sound analysis in this book. In fact, there is just enough that isn't to lead the author to the dubious conclusion that since the Industrial Revolution the principal cause of wars has been a contest for farm lands; to use the author's phrasing, "modern war is war for farms." The result is a book too much for the comfort of a scholar, in the same class as Vogt's *Road to Survival*, Osborn's *Our Plundered Planet*, Pearson and Harper's *World Hunger*, and Prentice's *Food, War and the Future*.

One is usually helped in thinking through such situations if one first thinks in interregional terms within one country. The natural parallel in this case is the industrial Northeast in the United States. This Northeast has lost a market for particular factory products as, first, the Midwest, and later the South and West, have industrialized. But the Northeast is still growing industrially. It has lost only in percentage of the whole. The latter is true even of little New England. There are those in the Northeast who are unhappy to see the South and West growing faster than the Northeast, but the only reasonable program for its inhabitants is to see that they readjust their industry so that it fits as closely as possible into the changing national economy. The national interest is in getting all parts of the country industrialized in proportion to the resources, and in having each industry grow where it has most advantage. The important consideration for the Northeast is whether the industrialization of the rest of the United States adds enough

to the total national income so that the Northeast's share of it is an increasing absolute amount.

Could such a national development leave the Northeast with less industry absolutely? Surely so, although this is not likely. Also, if it does, other economic activity is likely to replace it.

Now suppose the Northeast were a separate nation. The international interest would be the same as the national interest so far as Northeast, South and West are concerned. But what would the Northeast itself do in such a situation? Obviously it would do all possible to enable existing industries to continue to compete by making them more efficient, by seeking alternative new markets, and the like. Some of its existing industries would find they had comparative advantage and expand, and others would contract. Also some new industries would probably be found. All this would be good internationally too. But Chew's doctrine is to the effect that these measures would not suffice, and the Northeast nation would in due time engage in actual military conquest of the *farm lands* of the South, and West or Midwest. Why farm lands in particular? *So as to be able to produce within its own boundaries the food that it could no longer get by exchanging factory goods for it.*

He says further that even the industrial nations with big foreign markets, except the United States, which has all the land it needs, will presently engage in such conquest so as to be *sure* of having *food* enough, for who knows when they may not lose some outlet, or go to war and face a food block.

He believes that both world wars were induced in this way, and another one will be if we do nothing to prevent it. Surely most historians will consider this a narrow and distorted view of Germany's and Japan's desire for "lebensraum." It happens that the territories most available to both of these countries were exporters of farm products; but had these territories been rich in coal, iron and oil rather than food, they would have been considered much greater military prizes. Consider the Ruhr and Silesia in this connection!

It is true that both world wars did make these countries, the United Kingdom, and some others, want to be more nearly self-sufficient in food; but surely they were no less concerned over sources of iron, oil, and coal. Also, shortage of exchange figured in both postwars, but especially in the second. The vigorous farm price-support measures after World War I came mostly with the break in farm prices from 1928 on, and were directly a response to pressure of the agricultural interests. No doubt the military sufficiency argument strengthened the hands of the agrarian politicians of Europe; very little those of the United States.

The cases of present Germany and present Japan have to be considered in a class by themselves. The readjustments which they need are greatly complicated by the second war.

Chew proposes as a general solution some form of international agreement that will assure industrial countries of their foreign outlets, or delay the loss of them while adjustments are being made, and at the same time assure them of a food supply.

JOHN D. BLACK

Harvard University

ARABIAN OIL. By RAYMOND F. MIKESELL and HOLLIS B. CHENERY. (Chapel Hill: The University of North Carolina Press, 1949. Pp. 201. \$3.50.)

Among those who, for one reason or another, are interested either in the economic problems of the Middle East or in international raw materials problems or in the oil industry, it will be pretty generally admitted that the title of this valuable little volume is inaccurate and too modest. As the table of contents shows, only about thirty pages are devoted *exclusively* to oil developments and issues in Saudi Arabia. There is a subtitle "America's Stake in the Middle East" which comes nearer to describing the scope of the work; but the (I am sure, unintended) implication that America's stake in the Middle East is identical and coterminous with the American-owned oil concession in Saudi Arabia is politically unsound and it is amply (if tacitly) refuted by the aggregate of facts adduced in the book itself.

Actually what Mikesell and Chenery have done is: (1) To assemble and interpret all the significant statistical data on Middle East oil and its place in the world fuel economy; (2) To describe the contractual arrangements which govern Middle East oil production and trade, and to analyze the problems (commercial and diplomatic) which derive from this clumsy and unstable pattern; (3) To describe particularly (and as a sort of case study) the various facets of the American concessionary position in Saudi Arabia—the diplomatic, legal, commercial, financial and managerial issues that have arisen; and (4) to appraise the depth and scope of the United States national interest in Middle East oil, and to evaluate the impact of this oil on American foreign policy and vice versa.

For all these services we are in the authors' debt. The factual compilation alone merits praise. The facts are in general not new (indeed, some of the statistical information is, inevitably, already obsolete); but the material is nowhere else available in one place, being scattered through government documents, the petroleum trade press, and a few journal articles. The analysis is penetrating, sound and modestly presented. The specific data on Saudi Arabia tell a fascinating story in concise form.

On the very broadest issues of policy one might cavil. If I read pages 124-25 correctly, the authors would like the experts of the American oil industry to work out an import program that would take account of all domestic interests and activities (including the experimental). To some extent this already happens but I had not supposed economists would commend it. By implication on pages 95-100 and explicitly on page 127 the authors urge ratification of the Anglo-American Petroleum Agreement, thus flogging a quite dead horse. On pages 121 and 128 the authors urge a United Nations conference to establish a world petroleum organization; despite a footnote on page 100 quoting me to the contrary, I do not now think this recommendation is in the realm of reality.

On page 119 it is stated that "American (oil) companies operating abroad can in general be counted on to abide by the wishes of (their) government." That is very nice.

JOHN A. LOFTUS

Washington, D.C.

Imperfect Competition in International Trade. By S. B. RANGNEKAR.
 Edited by J. J. Anjaria. University of Bombay Econ. Ser. No. 1.
 (Bombay: Geoffrey Cumberlege. New York: Oxford Univ. Press. 1948.
 Pp. xvii, 184. \$8.)

As its title indicates, this monograph is a study of non-perfectly competitive pricing as applied to the field of international trade. The basic approach follows the neoclassical reciprocal demand tradition in contrast to the specific commodity approach commonly used in investigating monopolistic pricing in world markets. The study is theoretical in the sense that cases are investigated without detailed preliminary investigation of their relevance for any particular historical setting. Exchange control, for example, is almost ignored, although some of Dr. Rangnekar's conclusions may conceivably have some applicability to such arrangements.

The investigation of various types of pricing arrangements is divided into monopoly and oligopoly, with a number of specific cases considered under each head. Under monopoly pricing, for example, four cases are considered, distinguished according to the number of countries supposed to be engaged in trade and according to whether one country monopolizes the marketing of all its exports or only one. Under oligopolistic pricing, more complicated arrangements are each investigated in turn. Dr. Rangnekar then attempts in a separate chapter to assess the implications of restrictive practices on both national and international welfare. The welfare analysis rests mainly on Professor Pigou's work in this field, combined on occasion with the currently popular "as t'were" doctrine. A final chapter attempts to assess how the earlier analysis should be modified if uncertainty is assumed. Money is introduced at this point and a monetary theory combined from various ideas of such diverse thinkers as Keynes and Mises is constructed. For such eclecticism, one can only commend the author's courage.

Like many doctoral dissertations, this work is mainly of the exercise variety designed to reveal the student's competence in his field. Those already familiar with the literature in international trade theory are not apt to find a careful reading of the book rewarding. Even as an exercise in economic analysis this study has serious limitations. The writing is frequently vague and at times inexcusably jumbled. Conclusions are commonly stated in the comparative form without the alternative mentioned. As a result of the poor quality of the writing, it is impossible to determine at a number of points just what views Dr. Rangnekar is attempting to demonstrate and hence permit a judgment of their validity. There are, in addition, a number of technically inaccurate statements. One is surprised to learn that the inelastic portion of a monopolist's demand schedule is the only relevant portion to him, and that monopoly power in the pricing of products automatically carries with it monopsony power in the buying of resource services. Such a statement as ". . . there is agreement that capital goods embody waiting" makes one wonder if the author has ever heard of F. H. Knight. These deficiencies loom less large when compared with the enormity of the task which Dr. Rangnekar set himself to handle in brief compass. Nevertheless,

it is unfortunate that this work was published in its present form, especially since it inaugurates the Economic Series of the University of Bombay publications.

EARL R. ROLPH

*University of California,
Berkeley*

Gli Ammodernamenti della Teoria degli Scambi Internazionali. By AMEDEO GAMBINO. (Padova: Cedam. 1946. Pp. 61.)

The booklet was written by a professor of economy of the University of Rome and was published by the Economic Institute of the Bocconi University in Milan. It deals with the progressive innovations in the theory of international trade and exchange, and its distinctive feature is an abstract and syllogistic method of analysis.

The purpose of Professor Gambino is to reinterpret the classical postulates of comparative costs and advantages in the light of the modern "equilibrium" theory. The author reviews the various theories of international trade from Ricardo and Mill through Marshall to Haberler and Ohlin. He accepts the assumption that "monetary" costs and not "real" costs determine the flow of international trade, but pursues the inquiry into the relative differences of monetary costs (or Haberler's "substitution" costs) among various countries. He finds that such differences are the result of the combination of productive factors prevailing in each country—and concludes that the relative advantages in international trade are for each country the same as those which may be established for domestic trade.

Of particular interest is the chapter of the book and an introductory note by Professor DeMaria on an "unfortunate criticism" by Pareto of Ricardo's theory of comparative costs. According to Pareto, Ricardo's theory serves to demonstrate a "possible" condition and not the necessary and only condition under which the international movement of goods can occur. Professor Gambino's view attributes Pareto's position to the fact that goods move in international trade if their relative costs are within the margins of their comparative costs in the various countries. Professor DeMaria observes, however, that a country may continue to export goods produced at disadvantageous comparative costs, if such commercial loss were lower than the alternative of closing and liquidating existing investments in export industries.

The author offers some stimulating thoughts, expressed in a very concise form. The booklet could be very usefully expanded, to provide a more readable text on the general subject of the historical development of theories of international trade.

FRANK M. TAMAGNA

Washington, D.C.

Industrial Organization and Markets; Public Regulation of Business

Cartels in Action. By GEORGE W. STOCKING and MYRON W. WATKINS. (New York: Twentieth Century Fund. 1946. Pp. xii, 533. \$4.00.)

Cartels or Competition? By GEORGE W. STOCKING and MYRON W. WATKINS.
(New York: Twentieth Century Fund. 1948. Pp. 530. \$4.00.)

These books are the first two of three volumes sponsored by the Twentieth Century Fund about problems of monopoly, national and international. The first contains case studies of international cartels. The second presents an analysis of cartel activity and an appraisal of its economic impact, together with recommendations as to government policy toward cartels. Thus the two books already printed constitute a full discussion of the international cartel aspect of monopoly problems. A forthcoming book is to be devoted to domestic problems of monopoly.

Volume One supplies a long felt need for relevant data. Facts and documents aplenty have been available in the cartel cases in the Department of Justice, in the records of the Bone, Kilgore, and Truman committees, the Nye committee, and in various special monographs and reports. But this information has been so scattered and disorganized as to be useful only to specialists. Considerable literature of comment has been available, but it has fallen into four classes: scattered monographs of varying quality about particular cartels; analytical summaries by foreign authors, completed before many of the relevant facts were disclosed; propaganda in defense of cartel activities or particular cartels; and impassioned condemnations of cartel activities or particular cartels. Since the war, this literature has been supplemented in the United States by several publications concerned with government policy toward cartels. But there has not been available a single volume in which the facts about the more important cartels are set forth and subjected to careful analysis.

Cartels in Action does not, of course, cover all of the cartel arrangements that have been disclosed in recent years. Since there are more than 100 of these, an attempt at such coverage would have prevented an adequate account of any of the cases. Instead, the book selects for careful analysis eight outstanding examples: sugar, rubber, nitrogen, steel, aluminum, magnesium, incandescent lamps, and chemicals. These examples have been so chosen as to include basic raw materials of agricultural origin, as to which cartel activity has depended largely upon government support; primary metals, privately controlled by large companies which have succeeded in dominating well-defined industries; and electrical and chemical products, as to which cartelization has depended upon the ability of large companies to control technological change and to maintain lines of jurisdiction in spite of the fluidity of industrial boundaries. Cartelization in the chemical industry receives special attention in chapters which first survey the broad organization of the industry throughout the world, then deal with the development of product cartels within the industry as illustrated by the two cases of alkalies and explosives, then describe the comprehensive patent alliance between DuPont and Imperial Chemical Industries, and finally discuss at length the activities of I. G. Farbenindustrie.

Statistics, documentary evidence, and economic analysis have been blended in these case studies. There is no equally authoritative picture of the broad

sweep of cartel activity. In particular instances, for example the chapter on sugar, the authors appear to have slighted the operative techniques of cartelization in their care to analyze the market situation within which the cartel operated. In the sugar chapter, too, there appears to be some variation in the authors' assumptions as to the elasticity of demand and as to the relation of prices to marginal costs, as well as a willingness to assume too readily that losses by producers are disastrous to the world economy as well as to persons directly involved. In the nitrogen chapter, the authors do not bring out the extent to which producers of synthetic nitrogen have used the peculiar problems of natural nitrate production in Chile as a cloak for their own interests. Such minor defects, however, do not obscure the solid and admirable quality of the work as a whole.

Cartels or Competition is a penetrating analysis of the relation between the environment and the growth of cartels and of the effects of cartels upon the economy. It presents two sets of policy recommendations—one by the authors and a longer and more detailed one by the Committee on Cartels and Monopoly appointed by the trustees of the Twentieth Century Fund, the members of which were James M. Landis, A. S. Goss, Marion Hedges, Donald M. Nelson, Jacob Viner, and J. Raymond Walsh. An appendix deals with the prevalence of cartels in the American economy.

The authors treat cartel activities as one manifestation of a trend away from competition toward nationalistic autarchy and business syndicalism in all industrial countries. The rôle of governments in fostering cartels and helping make them effective is emphasized. Nevertheless, the economic consequences of cartels are categorically condemned. While it is recognized that cartels sometimes improve technical efficiency when the cartelized firms stand to gain thereby, it is emphasized that cartels bolster the vested interests of high-cost producers, make prices rigid in a way which probably aggravates business instability, freeze conditions of over-expansion and promote under-investment, and practice price discrimination which destroys equal opportunity. The argument that cartels tend to stabilize an economic system is considered at length and discredited on grounds of both logic and experience. Instead, the authors conclude that cartel restrictions "strengthen the forces pushing toward retrenchment and aggravate the imbalance in the economic system." On the ground that cartels typically aim at preventing change, cartel arrangements are also rejected as means of coping with war-born maladjustments.

The authors recognize that particular cartels may serve the interests of particular nations in cases in which these nations sell the cartelized product to the world at large. But, considering this matter specifically in the case of Britain, they conclude that a nation cannot choose to have only those industries cartelized in which monopoly control would serve its own interests and that a comprehensive system of international restrictive controls would be contrary to the British interest.

Only in the case of raw materials do the authors see any justification for adoption of restrictive policies of the cartel type. The volatility of agri-

cultural prices and the erratic output of mining are regarded not only as problems for the populations whose income is derived from these industries but also as factors contributing to general instability. For this reason, the authors support governmentally sponsored commodity agreements organized on an international scale and designed to prevent fluctuations in agricultural income by such devices as buffer stock operations and to assure steady exploitation of mineral resources by incentive forms of differential pricing and by tax adjustments. They do not, however, discuss the degree of probability that commodity agreements will be used along the suggested lines for the suggested purposes instead of in other and more restrictive ways.

The authors recommend a policy designed to curb cartel restrictions, by international agreement, if possible, and by unilateral action on the part of the United States if necessary. They conceive such a policy as including not only direct attacks on restrictive practices, but also modification of patent laws to require the compulsory licensing of patents; development of government policies toward research designed to foster the exchange of technical information; national and international action to simplify corporate structures and to insure disclosure of the ownership and control of large corporations and the financial relations between them; reduction or abandonment of governmentally established barriers to international trade; and international coordination of national monetary policies.

The Twentieth Century Fund's Committee on Cartels and Monopoly likewise recommends a policy of breaking up cartels, coupled with concerted international action to reduce trade barriers, encourage international investment, and, if possible, check depressions. It regards the proposed charter of the International Trade Organization as an important, though not sufficient, step in making such a policy effective. It emphasizes the possibilities of unilateral action by the United States to supplement what is done through I.T.O. by a vigorous application of the American antitrust laws. To this end it proposes certain modifications of American law, most important of which is repeal of the Webb-Pomerene Act in favor of a substitute statute which would subject export associations to clearer and stricter rules. It recommends patent reform, international if possible and in any case domestic, and the continuation of efforts to dismember German and Japanese cartels through the activities of military government. It lends general support to the I.T.O. policy toward commodity agreements but proposes tightening the safeguards in certain respects.

This volume probably will become the authoritative analysis of the economic impact of international cartels. No previous American treatment of the subject has been so carefully reasoned and so well grounded in facts. Few recent works dealing with any aspect of market policy have shown comparable breadth of view, clarity of argument, and temperate balance of judgment. This reviewer's enthusiasm cannot be wholly due to the fact that on most points his own conclusions agree with those of the authors; for in chapters where this is not true, such as that which discusses commodity agreements, he finds the same virtues.

Such faults as the book possesses are subtle ones. The critique of cartels contained in this volume takes as its starting point an unrealistic assumption of relatively perfect competition as a practical alternative. An instance is page 279, in which a generally free market is said to reduce prices to the necessary costs of production and to provide a mechanism which allocates resources, organizes production, distributes income, and rations goods in a way which, though not perfect, is superior to any alternative which society has been willing to use. To rest the case against cartels upon the belief that competition has such virtues is to give cartels the status of a practicable alternative from the point of view of any one who finds competition unsatisfactory either for the economy as a whole or for some segment thereof. The sympathy which some socialists display for cartels rests upon this way of formulating the issue. Since the authors have made clear the inherently restrictive purposes and tactics of cartels, it should be sufficient for them to show that whatever imperfections competition may have can only be worsened by deliberate anti-productive maneuvers on behalf of group interests.

There is also in this volume something less than complete consistency as to methods of economic analysis. In certain passages, the authors treat the policies of cartels and cartel members as maneuvers for position in which profits on particular commodities in particular markets may be sacrificed to broad strategic considerations. At other points, the marginal analysis is applied with full acceptance of its implication that the motive of a trader is to maximize his profit on a particular commodity in a particular market. The disharmony between marginalism and the facts of life is, of course, not peculiar to this volume; and the authors have presented unusually rich material and valuable suggestive passages pointing toward the development of an alternative analysis of business positions and their economic significance.

CORWIN D. EDWARDS

Washington, D.C.

The Basing-Point System. By FRITZ MACHLUP. (Philadelphia: Blakiston. 1949. Pp. vii, 275. \$5.00.)

Professor Machlup's new book on the basing-point system may be a disappointment to many in his wide circle of admirers among professional economists. Possibly, however, it will gain him new admirers in the wider audience to which it is also addressed. Present, as usual, are his pungent style, his sly humor, his gift for clear exposition of complicated matters, his masterful use of the analogy. The layman accustomed to dry and technical treatises from economists will find this a pleasant change.¹

The author leaves no doubt that he is opposed to basing-point pricing. He attempts to prove that it is "monopolistic," in the sense of involving "collusion or oppression," and emphasizes what he calls "the peculiar interde-

¹ Despite an obvious effort toward simplified exposition, however, some technical terms—e.g., marginal cost—creep in, without explanation, which may make the layman's perusal less happy than was indicated above.

pendence between the operation of the basing-point system and the domination of the industry by powerful concerns." In more detail, he argues that the system stifles competition, wastes transportation resources, results in higher prices and lower output than would prevail under f.o.b. mill selling, and causes mal-location both in the industry using the system and in industries using its product. A compulsory f.o.b. mill pricing system is endorsed as "the only practical alternative . . . in industries with heavy concentration of control."

In advocating, to a general audience, a definite position on a subject of current public controversy, an economist has to try very hard to refrain from slipping into the tactics of a debater. Professor Machlup has largely avoided this temptation. That he has definite views is clear. Yet only occasionally does persuasion possibly interfere with enlightenment. Once or twice, making opponents look ridiculous seems to take precedence over discovery of the truth. Conclusions are occasionally stated with what may be objectionable dogmatism and absence of appropriate qualification. Some may dislike the ways in which Machlup disposes of contrary views on the part of other economists. They are either not economists ("What can be so offensive and so appealing in a pricing method that economists would attack it vigorously while professors of marketing come forth to defend it?"); or they have been "paid witnesses" for "vested interests," and one wonders "how much of a bias is apt to creep into their thinking, in spite of their good intentions"; or they can be dismissed as spinners of abstract theories ("Almost anything can happen in this brave world. Economists have much imagination and succeeded in developing theories of a noncollusive development of the basing-point practice under oligopolistic conditions. . . . In a rather technical paper, Professor Smithies concluded, after complicated analysis . . .").

But the disappointment suggested in the opening sentence is not over such relatively trivial matters of presentation. It is more fundamental. To the professional student of price policies, the disappointment will be primarily that the book does not say a great deal that is new. There is neither new factual material, nor, more important, much really new, rigorous, theoretical analysis of major issues. As the author insists, the problem of the basing-point system is essentially a theoretical problem. From a master of pure theory, we might have expected some new abstract analysis at a high level of intellectual rigor.

There are, to be sure, some excellent pieces of exposition and analysis. Many controversial points are illuminated. There are other parts of the argument, however, that are less than completely convincing. In the approach to one of the most crucial problems, Professor Machlup's analysis is even deceptively non-rigorous. The systematic discussion of relative price levels under basing-point and f.o.b. pricing comes on pages 204-9. The following sentences represent, fairly, I think, the heart of the exposition:

Assume that an industry is forced to switch suddenly from basing-point pricing to uniform f.o.b. mill pricing. Assume further that the level of mill net prices is to stay unchanged. In this case each mill will set its f.o.b. mill price at the figure of its previous average mill net price. . . .

First, savings may be effected by using the cheapest means of transportation for shipments where alternative means [e.g., water] are available. This should reduce some delivered prices even if no orders are transferred from more distant to closer mills. But, secondly, there will be a tendency for consumers to place order with mills from which the freight cost is lowest. . . .

Up to this point, the benefits to consumers have all come out of savings in freight costs. . . .

When consumers in their attempts to save unnecessary freight costs transfer orders to closer mills, some producers may find their sales volumes shrinking so badly that they must start competing for more business. This, under the uniform f.o.b. mill price system, would take place chiefly through the lowering of their f.o.b. mill prices. . . .

For reasons explained earlier, producers faced with the necessity of competing for business will probably no longer have the inhibitions against lowering prices that they had under the basing-point system. In short, price competition will have come into play.

Note, now, the second and third sentences: "Assume further that . . . each mill will set its f.o.b. mill price at the figure of its previous average mill net price." Nothing that follows justifies nor removes this assumption.² Suppose, however, that we "assume" something else: namely, that each (base) mill makes its previous base price its new f.o.b. price. There is not space for a rigorous demonstration (which the reviewer believes can be supplied) that at least under certain assumptions the mill shifting to an f.o.b. system would set the same f.o.b. price as its previous base price. *In any case*, if we are merely to start by "assuming" something, this is no more ridiculous an assumption than Machlup's. But in this case, the level of delivered prices to consumers would *not* initially be lower.

To be sure, we still have the second reason for price reduction: competition for business by mills whose sales have declined. But, as Machlup himself admits, this is as good a reason for other mills (who have gained business) to raise prices, particularly if there is little unused capacity. Suppose, however, that the redistribution of business does result in an outbreak of price competition, because the mills that lose sales will seek to regain them and the mills that gain sales previously had unused capacity, and seek to hold their enlarged business. This is possible. But if the switch in pricing systems redistributes business (as it almost surely would), it is because the locational forces are different under the one than the other system. What might occur is some distress selling by badly located mills (*i.e.*, badly located under the

² The reader should be warned that Professor Machlup feels I have made an unjust error of interpretation here. He points out that the argument that changes in mill prices would arise from competition for business removes the initial assumption of unchanged mill nets, which was made only for purposes of exposition. I do not believe I have been unfair. The quotation indicates his method, which is to start from an assumed price level and indicate forces operating to change it. Perhaps I could better have expressed my criticism by saying that this procedure seems a poor substitute for an *analytical* solution which would first identify "equilibrium" levels of price under each pricing arrangement, and then compare them. This Machlup never does.

new system). But if mills had "grown up" under f.o.b. pricing, or *after* locational readjustments following a shift in pricing method had occurred, *this* force in the direction of price competition would not exist. It is not inherent in the f.o.b. method of pricing.

Nevertheless, the nature and strength of competitive forces under the two systems are different, in ways that are subtle and hard to evaluate. The reviewer ventures the opinion that a realistic comparison of the price results under the two systems can be made only industry by industry, with careful regard for the many physical and institutional facts—such as, for example, the particular geographic configuration of markets, and the trends of demand in these markets. In the absence of such special consideration, it appears difficult to make dogmatic judgments as to relative price levels under f.o.b. and basing-point pricing.

But there is a third alternative, freight absorption without a basing-point system. Although Professor Machlup has little discussion of this possible arrangement, he admits that unsystematic freight absorption may be a powerful competitive force. Some, in fact, fear that ability to discriminate locally (coupled with imperfect knowledge) can lead to "ruinous" competition, in which delivered price in each local market gets reduced to the bare level of delivered marginal cost of the seller with the second-lowest delivered marginal cost in that market, and socially desirable investment retarded. Thus compulsory f.o.b. mill pricing might be the best thing that could happen from the standpoint of firms in some industries. If the only legal form of price competition required reducing all prices to reduce any, the impetus to price cutting might disappear completely; while the prohibition of freight absorption would remove any temptation to a costly form of non-price competition.

It seems possible that the strange and often confusing ambivalence of some basing-point defenders results from a perhaps unconscious switch in the comparison being made: (as compared with non-systematic discrimination) basing-point pricing provides stability against cut-throat price warfare—hence the system can be defended as a barrier against "ruinous" competition; but (as compared with compulsory f.o.b. pricing) prices would not be reduced if basing-point pricing were outlawed, because it is ridiculous to assume that oligopolists simply wearing new clothes would immediately become short-sighted enough to compete in price. Machlup's best point here, I think, is his emphasis upon the importance of domination by the big firms: the latter might not wish to compete under f.o.b. pricing, but their smaller competitors might, and ending of freight absorption would deprive the big firms of the opportunity for oppressive retaliation through the practice of intensive sales cultivation or price reductions in the local markets of small sellers who stray from the fold. But one may wonder whether other bases for oppression might not remain.³

³ It is necessary, I think, to distinguish two purposes for oppression. One is to prevent small firms from upsetting the applecart by price cutting. Oppression may or may not be necessary to achieve this result—the small firms may be as far-sighted as the large, and their own profit prospects, "intelligently" viewed, may lead them to refrain from action

This brings us back again, then, to the issues of collusion and oppression, which Professor Machlup makes so central. There can be no doubt that overt collusion has often figured in basing-point pricing; some of its most absurdly wasteful results can only be so explained. Likewise, the existence of oppression is the only possible explanation of part of the history of base prices. But there remain the very large areas of questions as to the *meaning* of collusion and oppression when numbers are small and industries mature, and whether our legal tools are sharp enough to cut away collusion and oppression whatever the pricing system followed. Those who fail to join Professor Machlup's crusade against basing-point pricing perhaps do so basically because of doubts on this score.

Certainly, Professor Machlup has made some valuable contributions to the basing-point controversy; but he has not provided all of the answers, and we can be sure that the controversy will continue.

GARDNER ACKLEY

University of Michigan

Maintaining Competition: Requisites of a Governmental Policy. By CORWIN D. EDWARDS. (New York: McGraw-Hill. 1949. Pp. xi, 337. \$3.75.)

The avowed purpose of this volume is to describe the content of a governmental policy designed to maintain "the competitive system" in the United States. The system thus to be preserved is simply one in which most markets, with the exception of natural monopolies, are primarily regulated by the active rivalry of the participant sellers and buyers. It is "simpler, cruder, and less comprehensively beneficial than the perfect competition of classical economics"; it admits of imperfect knowledge, confused motivation, product differentiation, selling efforts, and the recognized interdependence of rival firms. As such, this competition is not a sufficient automatic regulator of the economy, but it should be sought as one goal of a broader public policy aimed at maintaining a stable and prosperous economy.

The essence of this competition is found in "access by buyers and sellers to a substantial number of alternatives and in their ability to reject those which are relatively unsatisfactory." Its general structural requirements are: (1) an "appreciable" number of sellers and buyers for each general sort of good; (2) inability of any trader by virtue of size to coerce his rivals; (3) responsiveness of traders to profit-loss incentives; (4) no commercial agreements among sellers or buyers; (5) relatively easy entry to any market; and (6) no artificial barriers to buyer-seller relations and no artificial preferences to individual sellers or buyers.

The policy appropriate to the maintenance of such competition involves

that would ultimately leave all firms—large and small—in a worse position. The other situation involves possible conflicting interests between small and large firms. For example maximization of profits by one (large) firm may require that other (smaller) firms at a distance remain non-base mills, or set higher base prices than is in their own interest to do. This can be achieved only by domination, because it involves a *transfer* of potential profits from one to the other.

first, an attack on undue concentration, collusion, and barriers to entry within the designated "competitive" areas, and second, a careful formulation of policy in the regulated non-competitive areas in order to avoid publicly sponsored private cartels and to secure reasonably competitive results under regulation.

With this general preamble, Mr. Edwards proceeds to examine various aspects of the problem at length, being mainly concerned with the detailed goals of a public policy toward competition and with detailed suggestions for legislative and administrative reform. He turns attention first to restrictive agreements among traders, which he holds to be generally undesirable regardless of allegedly beneficial intent. Explicit agreements should be directly attacked; tacit collusion should be undermined by attack on "supplementary collusive uniformities" such as detailed agreements on terms of sale, etc.; price leadership should yield at least in part to attack on coercive tactics and on undue disparities in size of firms. For these purposes, in spite of some unfortunate turns of interpretation, the substantive content of the existing antitrust laws is generally adequate, although codification of a list of specific practices which are generally regarded as objectionable would be helpful.

There are, however, numerous exemptions applicable to private agreements which should be removed or modified. Edwards argues that the Webb-Pomerene Act should be repealed, together with resale price maintenance legislation. The special exemptions allowed to agricultural cooperatives should be restricted by excluding from membership in exempt cooperatives all corporations and any persons not primarily engaged in growing crops. Cooperatives should be prohibited from coercive actions and attempts to monopolize, and the Agricultural Marketing Agreements Act should be repealed outright.

The author is less forthright, however, in the knotty case of labor. After considerable weighing of pros and cons, he limits himself to the proposal that the Apex-Hutcheson doctrine be modified by an act which would clearly distinguish commercial competition from labor relations and would make unions fully subject to the antitrust laws so far as their activities aim at control of commercial competition. The monopolistic activities of unions within the proper sphere of labor relations are left for treatment by special legislation and are considered "apart from the antitrust laws and even apart from the competitive policy."

The problems of concentration of market control and of economic power are found to occur with respect to simple horizontal monopoly, vertical integration, and overgrowth of the giant diversified firm. After examining the adverse consequences of such types of concentration, the author considers the complexities of the simple horizontal concentration within the single industry. He concludes that most of the real (as opposed to strictly pecuniary) economies of scale are ordinarily fully exploited within the single plant, that the arguments for real economies of scale to multi-plant firms are unsubstantial or overrated, and that there are many instances where such firms could be dissolved with economic advantage. For purposes of policy he would find the

number of firms unduly small (and thus seek dissolutions) "when the buyer no longer encounters substantial variations in business policy; whether —(this) is due to single control, to agreement, or to mutual forbearance among a few large enterprises"; he would also find a firm to be unduly large "when it habitually engages in acts of intimidation and coercion against [its rivals]." When either of these results is definitely threatened, similar intercession is recommended as a reasonable precaution. Objectionable vertical integration would be found first wherever a firm with a legal monopoly in one field enters another in which monopoly is unlawful (this should be forbidden); or wherever there is a substantial and not clearly justified disproportion in the sequence of a vertical integration which greatly disadvantages non-integrated competitors. Excessive firm size *per se* would be found where a firm "has coercive power or is habitually able to obtain discriminatory privilege."

For attainment of the policy goals thus implied, the author relies in part on "environmental changes." He would establish a federal incorporation for interstate firms and would limit the use of holding companies, interlocking ownership, intercorporate loans, and interlocking directorates, though to a not precisely specified degree. He would amend Section 7 of the Clayton Act to forbid all acquisitions of the stock of competing firms, without any test of results, and would add legislation limiting intercorporate acquisitions of capital assets under rules designed to check the growth of monopoly or great firm size. He would also favor legislation and taxation to preserve the impartiality of banks, discourage excessive reinvestment of earnings by large firms, and assist the growth of small enterprise.

With respect to direct attacks on existing concentration, however, he is less explicit. He does favor definite legislation affecting integration by legal monopolies, and would establish at law a rebuttable presumption that simple bigness in excess of some maximum size is against the public interest and hence illegal. But he is not too clear about the simple trust-busting job implied by any application of his standards of undue fewness in the single market. This reader received the impression that he stakes his main hope on a revision of judicial interpretations of the Sherman Act to accord with such standards.

For the balance of his policy, Edwards would direct attention to limiting coercive activities and to facilitating easy entry to markets. Various explicit proposals are advanced concerning discrimination (including some revisions of the Robinson-Patman law), tying contracts (requiring a strengthening of Section 3 of the Clayton Act), reciprocal buying, etc. Basing-point systems would be outlawed but sporadic freight absorption permitted. Limits would be placed on exclusive dealing arrangements, and modification of local licensing and regulatory laws which unduly restrict entry would be sought.

In an excellent brief treatment of the patent law problem (pp. 216-48), Edwards concludes that we should (1) secure a better procedure for scrutiny of patent applications and disclosure of the inventions patented; (2) require compulsory licensing where needed to safeguard against non-use or abuse

of patents; (3) require cross-licensing where patents are complementary; (4) make patent pools non-exclusive where the patents pooled are a source of substantial economic power; and (5) prohibit exclusive, discriminatory, and restrictive licensing in fields of use for a patent where the patentee does not operate.

After a number of warnings anent the scope and nature of controls in non-competitive regulated areas, the author turns to administration. Some of his major proposals here are (1) for the establishment of a "central competitive agency" charged with coordination and appraisal of the activities of semi-autonomous regulatory agencies and with recommending changes to them or to Congress; (2) for a quadrupled staff for the Federal Trade Commission and the Anti-Trust Division; (3) for various changes in law and procedure affecting consent decrees, penalties in civil suits, subpoena power in such actions, and rules of evidence in antitrust cases; and (4) provision of a rule-making power for the antitrust agencies. His analysis of the administrative and litigatory problems which underlie these proposals is good.

Taken as a whole, the work presents a well-balanced and comprehensive program for the preservation or rejuvenation of a workable free enterprise economy in the United States. Its principal contribution perhaps lies in the elaboration of an array of legislative changes and innovations consistent with the vigorous pursuit of the American antitrust policy and philosophy, and in the testing of each suggestion in the light of empirical limitations and economic logic. Its weaknesses are those generally intrinsic in efforts of this sort. It does not demonstrate nor adequately analyze the extent to which market behavior would be altered by the implementation of its various proposals. It points to aspects of economic structure or behavior which seems adverse to good over-all performance, and rests on the assertion that if these were remedied things would be somewhat better. The standards of desirable structure and behavior are at crucial points vaguely defined, with heavy reliance upon terms such as "substantial variations in business policy," "appreciable" number of sellers, "coercive power," etc. We could better assess the potential merit of Edward's policy if we knew more exactly what these terms mean to him or would mean in practice, and if we could thus guess at the sort of economic behavior which would emerge from market situations which met his standards. The labor issue is rather casually passed over, although it seems integral to the general problem attacked, and the embarrassing issues of tacit collusion and price leadership are viewed hopefully but certainly not resolved. Nevertheless, Edwards has put forward a systematic program for experiment which is well worth further analysis and evaluation.

JOE S. BAIN

Berkeley, California

Pricing of Military Procurements. By JOHN PERRY MILLER. (New Haven: Yale University Press. London: Geoffrey Cumberlege. 1949. Pp. xiv, 292. \$4.00.)

This book is an excellent summary and appraisal of the economic signifi-

cance of military procurement policies before 1939 and during World War II. It concludes with recommendations as to procurement policy in a society at peace but with large military expenditures continuing. The book is well written, the points made are clearly stated, and the author makes explicit the point of view from which his analysis stems. A final chapter presents the opinions of a conference on pricing military procurement which critically reviewed an earlier draft of Miller's book.

The emphasis throughout is on pricing. While recognizing that the overriding purpose of military procurement is to secure necessary military supplies, it is contended, nevertheless, that this can be done more effectively by determining prices which places upon the supplying contractor some impelling reason for conserving labor and materials. Underlying this general desire to use the price system to promote efficiency along the lines of Cassel's "Economic Principle" there is the desire to "preserve our democratic institutions, individual initiative, and the decentralization of decision-making" (p. 16.).

In times of peace but large military expenditures (crisis times), it is recognized that the competitive price system must be buttressed with fiscal and monetary policies which "avoid chronic tendencies toward unemployment on the one hand and inflation on the other" (p. 9). War will, of necessity, bring other controls including specific price controls, priorities, limitation orders and allocations. These may aid in proper pricing of military procurement in wartime but will not dispense with it. The pricing of military items, it is argued, should generally be left to the military services. Even in wartime the author believes that monetary and fiscal policies can accomplish much and thus make less imperative the detailed regulation of prices.

Negotiated contracts rather than competitive bidding is recommended as the best device for setting prices which will relieve contractors of those risks over which they have no control, while at the same time allowing them to bear risks which they may reduce by good management and efficiency. The incentive for such improvement is the added profit which good management brings. The control of raw material prices and of wages may aid this process by reducing the risk factors which are beyond the control of the contractor. Other devices, such as accelerated depreciation, government constructed facilities and government purchased equipment and special materials are all recognized as having merit for this same reason. Renegotiation of profits, while having morale-building advantages, has some considerable disadvantages, since the efficient producer who has reduced cost may be allowed no more, and perhaps less, profit than the inefficient who have raised costs. It also creates the tendency to think of close pricing as less important because profits are controlled.

The author clearly indicates that the negotiated contract is not a simple formula. It is a way of constructing contractual terms which, if based on sound information, can meet the various purposes of the military services and, at the same time, take into account different problems of the suppliers. Trained personnel are essential as is a general spirit of cooperation for a "fair deal." It also requires that purchasing and specification drawing be more closely integrated.

This reviewer is firmly convinced that the "formal bid" procedure is almost worthless under present industrial practices. That an intelligently negotiated contract is superior seems evident to him. But in wartime the intelligent and well-informed negotiation of close price terms is difficult and perhaps impossible in many instances. It is, however, about the only method that is at all workable so long as the contractual program must be carried forward in terms of a purchase and sale for a price. The effectiveness of price in promoting economy of resources is extremely difficult to prove. The mass of accounting data may, in many instances, not really reach to the root of the real cost which should be reduced. The advantage of securing the contractors help in being economical is desirable, but how effectively this can be done through close pricing, particularly in war time, is questionable. Miller's conclusion (p. 221) that the World War II "evidence of the over-all effectiveness of the services' pricing policies and procedures is not conclusive" would be further emphasized by the reviewer. The fact that we won the war, that we carried through the greatest procurement of any military enterprise in world history or that "once conversion to war production had been effected prices negotiated on military contracts became increasingly reasonable" (p. 221), are not pertinent to the special point of economical use of resources through pricing.

That what can be done by this method should be done, is certainly obvious; that it may be considerable in peacetime, given intelligent and honest personnel, is probably true; but in wartime, when under great pressure to make every resource count, other more positively effective devices will be required irrespective of their authoritarian character.

RAYMOND T. BOWMAN

University of Pennsylvania

Land Economics; Agricultural Economics; Economic Geography

Urban Land Economics. By RICHARD U. RATCLIFF. (New York: McGraw-Hill. 1949. Pp. xii, 533. \$5.50.)

To the reviewer's knowledge, Ratcliff's work is the first text on *urban* land economics since 1928 when the real estate boom of the 'twenties was on the wane. In the interval, profound changes have occurred in urban land use and public attitudes toward land use problems, and some progress has perhaps been made in our understanding of land use phenomena. In the interval, too, texts on principles of urban real estate have covered much of the ground usually encompassed in urban land economics, but neither subject matter nor analytical treatment was quite commensurate with the requirements for a text on urban land economics. On the other hand, texts on general land economics devote most of the space to non-urban land uses.

Thus, the appearance of the first text within twenty years would, of itself, command unusual interest. This interest is heightened by Ratcliff's systematic and comprehensive approach to the subject and by a presentation reflecting the author's experience in applied research as well as in teaching. A great deal of empirical material brought together under one cover should increase the usefulness of the book for classroom purposes. Unquestionably, this is the

most inclusive and advanced text on the subject, and one that reflects the vast changes in this field during the past two decades.

After an introductory chapter on the institutional aspects of real property, Ratcliff devotes two chapters to the city as an economic and social complex and a chapter each to the demand for housing and for non-residential space. The supply side is covered by four chapters on the construction industry, the building process, and financing, including the federal financing aids. The interactions of demand and supply are treated in two chapters on urban land market functions and organization and on the housing market. Land income and value as well as city growth and structure are analyzed as products of land market forces. The final three chapters are given over to a brief discussion of urban land policies generally and a more detailed discussion of housing policies. Thus, the text in sixteen chapters covers a broad range of subjects held together by the author's focus on the market concept.

Into this framework Ratcliff has been able to inject additive materials, such as his detailed observations on the so-called filtering process in housing and on retail locations. His dispassionate discussion of current housing problems and policies, comprising about 100 pages, is not only useful but refreshing at a time when the issues are beclouded by emotional approaches and *ex parte* statements.

In the selection and organization of subject matter as well as in the analytical treatment, Ratcliff's text is a significant reflection of the present "state of the arts" of urban land economics. By the same token, the book raises questions directed toward the contents of the discipline rather than toward Ratcliff's truly substantial contribution. Urban land economics has as yet to define its field. Attempts to treat within a general framework the admittedly topical housing problems, construction economics, real-estate financing, city growth, and the theories of land value and urban locations are always in danger of doing justice to only a few of the subjects (even in a 524-page text such as Ratcliff's). Concentration on a more limited range of subjects would probably advance progress in a discipline which the author himself characterizes as "immature." For example, Ratcliff, in Chapter 13 on "City Growth and Structure," highlights two basic problems of urban land use: the relationship of land use to the site and the evaluation of space relationships. These two problems would bear much more extensive and penetrating analysis than is possible in an all-embracing framework of urban land economics.

Urban land economics is as yet preoccupied with descriptive materials and institutional analysis, which tends to obscure such principles of urban land economics as may be developed, and makes it difficult for the student to identify the theoretical structure. The linkage between general economic theory and principles of urban land use is yet to be more fully established. It is perhaps characteristic that even Ratcliff, who is more conscious of the need for a theory of urban land use than most writers in this field, and more successful in developing it, devotes twice as much space to the administration of real estate taxes as to the incidence of taxation.

Since urban land economics finds it difficult to delimit the field and

emphasizes descriptive analysis, the materials furnished to the student more often than not lack balance. As an illustration, 21 pages each of the present text are devoted to central issues in urban land economics such as land values and market functions; in contrast, 73 pages deal with credit and financing and 170 pages with various aspects of housing and housing policies.

Urban land economics has as yet to resolve the difficulty of focusing on the market concept while recognizing the importance of non-economic determinants of land use phenomena. The author shows full awareness of this problem but, when the chips are down, falls nevertheless into simple economic determinism, as in the statement that the city structure "is determined through the dollar evaluation of the importance of convenience" (p. 375).

Let it be said again that these comments do not detract from the real value of this text. It is because of the representativeness of Ratcliff's approach and its generally high quality that his book raises questions as to the orientation of urban land economics as a discipline.

LEO GREBLER

*Institute for Urban Land Use
and Housing Studies,
Columbia University*

Labor

Partners in Production—A Basis for Labor-Management Understanding. By the Labor Committee of the Twentieth Century Fund, assisted by Osgood Nichols. (New York: The Twentieth Century Fund, 1949. Pp. ix, 149. \$1.50.)

This small volume is the sixth of the series of reports by the Labor Committee of the Twentieth Century Fund. The volume, according to its foreword, formulates "... a new philosophy of labor-management relations on which both labor and management could agree." The present membership of the committee consists of Chairman W. H. Davis and Messrs. J. A. Brownlow, W. L. Chenery, H. Coonley, H. W. Payne, S. H. Slichter, H. W. Steinkraus, and E. E. Witte.

Chapter 1 poses the problem of conflict or cooperation in labor-management relations. The committee finds some evidence that cooperation is growing in the small percentage of working time lost in strikes (even in 1946), in a decline in bitterness in strikes (because employers did not attempt to operate), and in a shift in attitude as union organizers have been replaced by administrators and as employer belligerency has waned. The contention is also supported, they believe, by the observations (1) that few employers have taken advantage of the Taft-Hartley Act and (2) that events have discredited the Marxian concept of class struggle.

The second chapter, "The Goals and Attitudes of Labor and Management," constituting nearly one-half the book, is a useful introduction to much of the literature on worker and management motives. It consists of a

commentary woven around judicious quotations from or references to the writings of such students as Herberg, Bakke, Ross, Roper, Shister, Reynolds, Whitehead, Roethlisberger and Dickson, Williams, Mathewson, Tannenbaum, Harbison and Dubin, Drucker, Chamberlain, and others.

In Chapter 3, the goals of labor and management are classified and evaluated under three headings: mutual goals, seeming conflict, and real conflict. A mutual goal is involved in the worker's desire for advancement. This can be met by a secure union if it gives up strict seniority in promotions. Seeming conflict is involved in such issues as the introduction of technological changes and the problem of managerial prerogatives. To the latter issue the following possible solution is advanced (pp. 107-8): (1) Let the content of policies be a proper matter for bargaining; (2) Let the administration of the jointly accepted policies be management's responsibility, subject to (3) the union's freedom to invoke the grievance procedure. Thus the committee, in common with many other observers, rejects the idea of blocking out a proper subject matter for collective bargaining. To the committee, unions generally do not want to take over the job of management.

Real conflict is involved between labor's desire for security and management's desire for profits. Potential compromises include full acceptance of the union, stabilizing employment, severance pay, pensions, and evoking the will to work.

The "new philosophy" toward which the report is pointing is actually the old solution of "industrial democracy," some aspects of which have been described earlier by such writers as the Webbs, Slichter (industrial jurisprudence and union-management cooperation) and Bakke (mutual survival). The philosophy is not expressed here precisely as indicated by the following two quotations of different import and emphasis:

A contribution can be made toward the solution of the problem of the age—the relationship between people—by letting the citizens of the nation's shops govern themselves; that is, to the extent that it is practicable and they are ready and able (p. 131).

The Committee therefore recommends: That in all plants in which there is union representation management and organized labor assume responsibility for the integration of the union into the plant organization as an effective channel of two-way communication from managers to workers and from workers to managers (p. 147).

The implications of labor "participation in exchange for responsibility" are not spelled out. In this connection Professor Slichter's examination of the reasons for the failure of some union-management cooperation plans is relevant. Also comparison with the Catholic, socialist or communist plans advocated by some union leaders would be desirable in order to indicate that industrial democracy is a means to different ends.

The above paragraph implies that, like its predecessor, *Trends in Collective Bargaining*, this book is somewhat mistitled. It is by no means a comprehensive discussion of the problems of partnership in production. The goal is stated,

but the decision to use the slick-magazine style and level of writing apparently inhibited the analysis of it. In the reviewer's opinion, development in greater detail of the ideas advanced in the last two chapters would prove more convincing to labor and business leaders.

F. S. Doody

*Boston University, College of Business
Administration*

Labor in Postwar America. Edited by COLSTON E. WARNE and Associates. (Brooklyn: Remsen Press. 1949. Pp. xii, 765. \$10.)

This is a successor volume to *War Labor Policies* (Volume 1, *Yearbook of American Labor*), published in 1945. The two volumes are essentially similar in organization and treatment, though several of the editors and about two-thirds of the contributors have changed. Such differences as exist are due primarily to the shift from a wartime to a peacetime economy, with the attendant relinquishment of governmental controls over wage, price, and manpower policy, and the corresponding growth in scope and importance of collective bargaining. Sections on labor and the government, wartime union policies, and international relations of labor have been dropped, and a section added dealing with developments in labor legislation. Similarly, changes have been made in the specific topics included in some of the sections. Thus the list of key industries surveyed has been expanded to include a number not vital in war but significant in the peacetime economy, and chapters have been added on industrial relations in occupied Germany and Japan.

The thirty-one contributions that comprise the present volume, except for the concluding chapter, are grouped under five main headings: postwar setting, changes in American labor conditions, developments in labor legislation, labor relations in key industries, and labor relations of special groups. In addition, there are several appendices, including a chronology of the stabilization program after VJ-Day, a detailed analysis of the counter-march in labor legislation, and a roster of American labor unions.

An enormous mass of information dealing with virtually all important aspects of labor relations in the immediate postwar years is analyzed, organized, and presented in usable form by the thirty-five specialists whose contributions make up the volume. Some of them, holding governmental research or administrative posts, report developments in the areas with which they are officially concerned. The bulk of the contributions, however, come from academic economists rather than government officials, reversing the distribution of authors in the earlier volume. Though this should permit much more in the way of critical analysis, the emphasis in the volume is on straightforward factual presentation. Indeed, with three dozen contributors and editors, any other treatment would have created fresh difficulties, and impaired the volume's usefulness as a reference manual.

The structure of the volume makes for some overlapping. With separate chapters, for example, on Supreme Court labor decisions and on industrial

relations in coal, inevitably there is some repetition, for certain leading cases must be treated in both chapters. Similarly, different authors cannot write on such closely related topics as decontrol of wages and prices, basic labor conditions, and urban price trends without touching on similar developments. By the time the reader comes to the detailed story of industrial relations in pace-setting industries such as coal, steel, or automobiles, he has been made familiar by earlier chapters with many of the important issues, now to be presented in a different context or from a somewhat different point of view.

This is not a book designed to be read through; it is too choppy for that, since it lacks a story that flows though the volume. Rather each chapter is a unit in itself, telling a complete story of its segment of the vast and complicated postwar labor drama. The grouping of topics lends order and some cohesiveness to the volume, and a concluding chapter by Dorothy W. Douglas, "A Balance Sheet for Labor," pulls together some of the strands and gives some appraisal of significant postwar trends. Students will find the volume most helpful as a quick reference manual for labor developments following the war, and teachers will find many of the chapters useful as supplementary readings.

Where a volume is made up of so many separate contributions, all of them competently and many of them unusually well done, it is difficult for the reviewer to single out some for special attention without being unfair to the remainder. Any selection made may be a better index to the interests of the reviewer than to the quality of the contributions. Nevertheless, if this reviewer were to mention any single contribution, it would be the detailed analysis of the conservative swing in federal and state labor legislation prepared by David Ziskind. Emily Clark Brown is among the others who make very able contributions to the volume.

Colston Warne and his associates have done their job in a competent and scholarly manner. Their comprehensive survey of postwar labor developments should serve as a valuable reference source for many years to come.

JOEL SEIDMAN

University of Chicago

Labor in Norway. By WALTER GALENSON. (Cambridge: Harvard University Press. 1949. Pp. xiv, 373. \$5.00.)

"Few books have explored the institutions and the policies of a country in their bearing on industrial relations and the role of labor in the community with such insight and thoroughness as Dr. Galenson's *Labor in Norway*." Being in complete agreement with this introduction to the foreword by Professor Sumner H. Slichter, I may as a Norwegian add that "few books" may well be substituted by "no book" if "a country" is substituted by "Norway."

Dr. Galenson who is assistant professor of economics at Harvard University, conceived this study while he was serving as labor attaché to the American Embassy in Oslo during 1945 and 1946. This work brought him into

intimate contact with Norwegian experts on industrial relations and with influential individuals within the Norwegian government, The Employers' Association, the Trade Unions, and the political parties. The author utilized this opportunity remarkably well. He has succeeded not only in giving a correct and thorough description of Norwegian institutions and policy; but he has also clarified in an excellent way the major problems which the Norwegian labor movement is confronted with today.

The opening chapters of Dr. Galenson's book deal with the history and structure of the labor movement and the employers' organization. Among other things he points out that the Norwegian trade unions are considerably more centralized than the American and that during several decades they have supported the Labor Party which in 1945 gained the majority of the Norwegian Parliament (Stortinget). A corresponding unlikeness on the employers' side is the willingness of Norwegian employers to delegate the handling of labor relations to specialists of the Employers' Association.

Next are considered the Norwegian attempts to mitigate the effects of industrial strife through legislation, and also the history and results of the industrial relations process. Of particular interest is Dr. Galenson's discussion of the Norwegian experiment with mediation combined with a "cooling off" period, and of the distinction between "disputes over right" which are handled through a Labor Court and "disputes over interests," which are handled differently. Furthermore, a thorough analysis is made of the intricate pattern of industrial labor practices that have been embodied in the written collective agreements governing conditions of work for most Norwegian employees.

The remaining one-third of the book, dealing with the impact of a labor government upon the labor market, is introduced by a concentrated and well-balanced description of postwar Norwegian economic control and planning. The ensuing chapters dealing with postwar labor legislation and wage determination, and with the problems of trade unions under a labor government, present a most interesting analysis of labor against the background of the general economy and economic policy. Dr. Galenson has correctly pointed out that the achievement of political power by labor has implied a fundamental change in the essence, if not in the form of employer-employee relations. The trade union's bargaining power has increased greatly, and the trade unions have attained an important influence on economic policy in general. This increased responsibility has resulted in a changed attitude toward the strike weapon, toward scientific management, toward wage incentive plans, etc., a change which is still going on. The reviewer agrees with Professor Sumner H. Slichter in his statement that "The most important part of the book is Dr. Galenson's penetrating discussion of the effect of power upon trade unions and the labor party."

Not only those who are interested in industrial relations but anyone with interest in problems of economic policy may read this book with profit and enjoy it.

PETTER JAKOB BJERVE

Central Bureau of Statistics, Oslo

Population; Social Welfare and Living Standards

Readings in Social Security. By WILLIAM HABER and WILBUR J. COHEN.
(New York: Prentice-Hall, 1948. Pp. xix, 634. \$5.75.)

Much of the most worthwhile literature relating to social security philosophy and practice has existed only in scattered and fragmentary form—technical articles, speeches, Congressional hearings and governmental reports, some of which have never been generally available. Not only has some of the most stimulating thinking in the social security field thus been lost to the teacher, student, and administrator, but there also has been no one book or even group of books which a student could peruse with reasonable certainty of covering all of the more significant viewpoints.

In this collection of writings on all phases of social security, Messrs. Haber and Cohen have done much to provide a remedy. The broad scope of the book's subject matter is amply demonstrated by the chapter headings: The Problem of Insecurity; Theory and Philosophy of Social Security; Social Security Developments in the United States; Economic and Financial Aspects of Social Security; and Appraisal and Criticism as well as chapters devoted to each of the major social security programs. The general introduction is provocative, and each chapter is prefaced by a brief editorial statement providing background and perspective. The value of the book is amplified by the presentation of a list of selected references at the end of each topical chapter, by generally adequate indexing, and by a pleasing format.

No point is served by attempting here to evaluate either the appropriateness of the specific selections or the thinking of the authors represented in the collection. The editors have attempted with apparent success to present a balanced and suggestive collection including, in their own words, "the important opinions which bring out the major lines of reasoning—good, bad, and indifferent—from which the reader can develop his own point of view." While the editors' stature in the social security area would amply justify a liberal inclusion of their own views, they have not taken advantage of the opportunity.

As economists, we may be surprised that only four of the 65 selections are presented under the heading, "Economic and Financial Aspects of Social Security." With one exception, these consist of writings (by Sumner Slichter, Eveline Burns, and J. Douglas Brown) which appeared in the March, 1940 Supplement to this *Review*. The more up-to-date selection, written by Eliot Swan in 1946 as part of the Federal Reserve System's series of postwar economic studies, presents an especially helpful summary analysis of social insurance financing problems with emphasis upon their fiscal policy aspects.

Naturally, the economist will also find much to interest him in other parts of the book. But this is clearly not the place to look for a systematic treatment of social security in the framework, for instance, of national income analysis or in the context of any of the appropriate branches of economic theory.

To some extent the scarcity of such material which would be helpful to the

student of economics reflects inadequacy in the literature as well as a deliberately different purpose on the part of the editors. In general, the selections were undoubtedly designed to discuss the social security program in all its aspects—philosophical, administrative, legal, social, and political, as well as economic.

The collection is of more than historic and reference interest. The statements presented on medical care insurance, for instance, will be most useful as a source of relatively dispassionate arguments pro and con. The inclusion of important conclusions of the Senate Advisory Council on Social Security (1948) adds materially to the collection's immediate usefulness. And an article prepared by the present Social Security Administrator on the relationship of private health and welfare plans to the basic social security system is likely to be of interest in connection with recurrent labor-management negotiations on this subject.

One might wish for the inclusion of more material on foreign social security thinking, on the "social security" which is provided exclusively for war veterans, on the economics of transfer payments in general; and perhaps for the inclusion of texts (or digests) of pertinent legislation. Nevertheless, the significant lines of thinking are represented in the book. And in the continued absence of a new and authoritative textbook on social security, this volume is apt to prove much more useful than the ordinary collection of collateral readings.

4 D. E. CHRISTIAN

Washington, D.C.

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- WEINTRAUB, S. *Price theory*. (New York: Pitman Pub. Corp. 1949. Pp. xiii, 447. \$5.50.)
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NOTES

The annual meeting of the American Economic Association will be held at the Commodore Hotel, in New York City, December 27-30, 1949. A preliminary program was announced in the September number and a more complete program has been sent to all members with a ballot for the election of officers for the coming year.

EDITORIAL NOTE ON BIBLIOGRAPHY

In preparing the bibliography for the Periodicals department of the *Review*, there always exists an insoluble problem of where to draw the line. For domestic publications the problem is not particularly serious. The listings are mainly from the technical journals of economics and other social sciences, but also include many gleaned, not too systematically, from other sources. Editorial efforts are now being made to reduce the latter to more systematic coverage, drawing the line against the too ephemeral and those too far on the fringe of economists' interest.

The case of foreign listings, however, is more baffling. After the war, without any particular plan, more and more listings were gradually made from the renascent economic and related journals, even those in the less well-known languages, and from the numerous Latin American journals. This produced a large number of entries either of dubious value or accessible to only a few readers.

We have come to the conclusion that the *Review* could without serious disadvantage to its readers cut down rather sharply on entries from these sources, and in particular from journals in the more esoteric languages. This policy is based in large part upon the valuable service being rendered by the *Economic Journal* (London) in publishing the table of contents of most of the European and some other foreign language economic journals. We assume that most American scholars interested in economic articles published in Scandinavian, Dutch, Polish, Czech and other journals have access to the *Economic Journal* and can secure their bibliographical guidance from that source. The addresses of most of the journals can be found in the 1948 *Handbook* of the American Economic Association, beginning at page 337.

The *Review* will continue its comprehensive listing of articles in the English-language journals and a somewhat more selective listing from journals in the more widely known European languages.

While speaking of bibliography, a word may be said about the Titles of New Books department of the *Review*. A rather extensive inquiry was made among readers of the *Review* to find out whether we might not save space by listing fewer relatively ephemeral or unimportant items, especially in the pamphlet field. It appeared, however, that many specialists desired to have such material called to their attention. The policy in this respect will therefore remain unchanged.

OPPORTUNITIES FOR STUDY, RESEARCH AND TEACHING ABROAD

Numerous opportunities to do graduate work or advanced research, or to serve as visiting professors, are offered to American economists under the Fulbright Act.

Graduate students interested in the possibilities for study should make application to the Fulbright Program adviser at their university or, if not currently enrolled, to the Institute of International Education, 2 West Forty-fifth Street, New York 19, N.Y.

Persons interested in the opportunities for visiting professors and research scholars should write to the Conference Board of Associated Research Councils, 2101 Constitution Avenue, Washington 25, D.C.

ESTABLISHMENT OF JOINT COMMITTEE ON SOUTHERN ASIA

The American Council of Learned Societies and the Social Science Research Council have established a Joint Committee on Southern Asia for the purpose of appraising

American studies relating to India, Pakistan and Southeast Asia and making plans for their further development. Those interested in the work of the committee should communicate with Miss Alice Thorner, Executive Secretary, Box 17, Bennett Hall, University of Pennsylvania, Philadelphia 4, Pennsylvania.

An Institute of Social and Economic Research has been established at University College of the West Indies, Jamaica, West Indies. The director is Mr. H. D. Huggins.

Deaths

Benjamin M. Anderson, January 19, 1949.

Frank D. Graham, September 24, 1949.

Appointments and Resignations

Carl E. Abner has been appointed instructor in economics at the University of Louisville.

Robert J. Agnew has been appointed instructor in the industry department, School of Business Administration, University of Pittsburgh.

Norman Albrecht has been appointed graduate instructor in economics at Tufts College.

Sidney S. Alexander has resigned as assistant professor of economics at Harvard University to take a position with the International Monetary Fund.

Graydon K. Anderson, of the University of Wisconsin, has been appointed assistant professor of economics at San Diego State College.

Ivar Axelson has been named lecturer in marketing at the University of Miami.

Joe S. Bain, Jr., has been promoted to professor of economics at the University of California, Berkeley.

Ralph L. Baker has been promoted to an associate professorship in the department of economics and sociology at Iowa State College.

Robert Banzhaf has been appointed instructor in economics and commerce at the University of Chattanooga.

Robert A. Battis has been appointed instructor in economics at Lafayette College.

F. N. Beard has been appointed assistant professor of accounting in the department of political economy at the University of Toronto.

William N. Bergstrom has been promoted to the rank of associate professor of accounting in the College of Business Administration, Marquette University.

Robert E. Bickner is an instructor in the College of Business Administration, University of Georgia.

Warren J. Bilkey has been appointed instructor in economics at the University of Connecticut.

Leonard J. Bisbing has been appointed associate professor and chairman of the department of marketing, and director of the Bureau of Economic and Business Research in the College of Business Administration, Marquette University.

Martin L. Black is on leave from Duke University to work with the Atomic Energy Commission.

Jacob J. Blair, formerly staff arbitrator for the U. S. Conciliation Service, has been appointed professor of economics in the School of Business Administration, University of Pittsburgh.

Roy G. Blakey has been appointed visiting professor of economics at the University of California at Los Angeles for the current year.

Fred Blum has been appointed lecturer in economics for the fall term at Michigan State College.

George D. Bodenhorn has been appointed lecturer in economics at the University of California at Los Angeles.

S. Lees Booth has been appointed instructor in economics at Lafayette College.

Richard M. Bourne has been promoted from instructor to assistant professor of economics and labor relations in the College of Business Administration, University of Nebraska.

Royal Brandis has been appointed instructor in economics at Duke University.

Jack Bright has been appointed instructor in accounting at Illinois Institute of Technology, Chicago.

Royal J. Briggs has resigned as professor of economics at Central Missouri State College to accept a post at Superior State College, Superior, Wisconsin.

Henry D. Brohm, of the University of Illinois, has been appointed associate professor of marketing at the University of Florida.

O. L. Brough has been appointed professor of economics at Iowa State College.

Yale Brozen has returned to Northwestern University after a six months' leave of absence, during which he served as consultant for the Social Science Research Council's Committee on Social Implications of Atomic Energy and Technological Change.

Edward C. Budd has been appointed assistant professor of economics in the College of Commerce and Business Administration, University of Illinois.

M. M. Bronfenbrenner is on leave from the University of Wisconsin to do tax research work for the United States Army in Japan.

R. L. Bunting has been appointed assistant professor of economics at the University of North Carolina.

Daniel W. Burch is agricultural economist in the tax section of the Bureau of Agricultural Economics.

John F. Burke has been promoted from associate professor to professor of accounting at the University of Georgia.

John A. Buttrick, formerly of Yale University, has joined the staff of Northwestern University as an instructor in the department of economics.

Leonard F. Cain has been appointed instructor in economics in the Graduate School of Social Science, The Catholic University of America.

Francis J. Calkins has been promoted to the rank of professor and chairman of the department of finance in the College of Business Administration, Marquette University.

Carl E. Calohan, of the University of Alabama, has been appointed instructor in economics at the University of Florida.

James J. Carney, Jr., has been named chairman of the department of finance at the University of Miami.

Robert Campbell has been appointed assistant professor of economics in the College of Commerce and Business Administration, University of Illinois.

W. M. Capron has been appointed assistant professor of economics in the College of Commerce and Business Administration, University of Illinois.

Leonard Chadwick, of the University of Nevada, has been appointed assistant professor of economics at San Diego State College.

W. E. Chalmers has been promoted to professor of economics and has been appointed acting head of the Institute of Labor and Industrial Relations, University of Illinois.

Neil W. Chamberlain has been promoted to the rank of associate professor of economics at Yale University.

Lester V. Chandler, of Amherst College, served during the summer as staff economist for the Subcommittee on Monetary, Credit and Fiscal Policies of the Joint Committee on the Economic Report and is continuing in that capacity on a part-time basis this year.

Robert F. Clark has retired from the Marietta College faculty, where he has been professor of economics and sociology since 1922.

Robert L. Clodius was appointed lecturer in economics for the fall term at the University of California, Berkeley.

J. A. Cochran has been appointed assistant professor of economics in the College of Commerce and Business Administration, University of Illinois.

Frank G. Coolsen has been appointed assistant professor in the College of Commerce, University of Kentucky.

William Corson has been named instructor in economics at the University of Miami.

C. Merle Crawford, formerly of the University of Illinois, has been appointed instructor in marketing at the University of Florida.

Richard M. Cyert has been promoted to assistant professor of economics at Carnegie Institute of Technology.

Amando M. Dalisay has recently been appointed director of the department of economics, research and statistics, Philippine National Bank, Manila.

K. R. Davis has been appointed assistant professor of marketing at the University of North Carolina.

Harris P. Dawson, Jr., of the Bureau of Labor Statistics, is serving as staff economist for the Subcommittee on Unemployment of the Joint Committee on the Economic Report.

Ray Dawson has been appointed instructor in accounting at Illinois Institute of Technology, Chicago.

William G. Dick has been appointed instructor in economics in the College of Business Administration of the University of Nebraska.

Robert L. Dickens has been appointed instructor in economics at Duke University.

Paul A. Dodd is on leave from the University of California for research work in Europe.

Francis S. Doody has been promoted from assistant professor to associate professor of economics at Boston University.

James H. Dornburg has joined the staff of the School of Business Administration, Emory University, as instructor in economics.

Laurence P. Dowd has been appointed instructor in economics at the University of Michigan.

Douglas D. Drysdale is instructor in money and banking at the University of Virginia.

Doris A. Duffy, of the College of the Sacred Heart, Manhattanville, N.Y., has joined the faculty of the Graduate School of Social Science, The Catholic University of America, as assistant professor of economics.

Durward H. Dyche has resigned from the University of Texas to accept an appointment as associate professor of law at Wake Forest College.

William R. Dymond, of Cornell University, has joined the staff of the department of economics at Massachusetts University.

Harry Eastman has been appointed instructor in economics at Duke University.

Thomas J. Edwards has been appointed instructor in accounting at Louisiana State University.

Wilford J. Eiteman has been promoted to the rank of professor of finance in the School of Business Administration of the University of Michigan.

Grover W. Ensley, formerly administrative assistant to Senator Ralph E. Flanders of Vermont, has been appointed to the staff of the Joint Committee on the Economic Report as associate director.

Guy P. Evans has been appointed lecturer in accounting in the Graduate School of Social Science, The Catholic University of America.

Elmer D. Fagan is on sabbatical leave of absence from the department of economics of Stanford University in the current academic year.

Hans R. Fadum has been promoted to the rank of assistant professor of economics at Yale University.

William W. Frasure has been promoted from assistant professor to associate professor of accounting in the School of Business Administration, University of Pittsburgh.

Robert W. French has resigned from the University of Texas to become dean of the College of Commerce and Business Administration at Tulane University.

Walter Froehlich has been promoted to the rank of professor of economics in the College of Business Administration, Marquette University.

Joseph Fulton, of New York University, has been appointed instructor in economics at Michigan State College.

George Garvy, of the Federal Reserve Bank of New York, has been appointed lecturer in economics at Columbia University School of General Studies.

Jack E. Gelfand, formerly of Washington Square College of New York University, has accepted an assignment as instructor in economics in the School of Business Administration, Lehigh University.

Thomas G. Gies is an instructor in economics at the University of Michigan.

Bela Gold has been promoted from assistant professor to associate professor of economics, School of Business Administration, University of Pittsburgh.

George S. Goodell has been appointed instructor in business administration at Marquette University.

James Goosman is an instructor in business administration at Louisiana State University.

Blaine M. Gordon has been promoted to the rank of assistant professor of economics at the University of Louisville.

Myron J. Gordon has been promoted to assistant professor of economics at Carnegie Institute of Technology.

Wendell C. Gordon has been promoted from assistant professor to associate professor of economics at the University of Texas.

Wytze Gorter has been advanced in rank from lecturer to assistant professor of economics at the University of California at Los Angeles.

Manuel Gottlieb has been appointed visiting assistant professor of economics at Colgate University.

J. Paul Graham has been appointed instructor in economics and business administration at West Virginia University.

Howard K. Grasher has been appointed instructor in business organization and management in the College of Business Administration, University of Nebraska.

Ralph Green has resigned as instructor in economics at Duke University to accept a position with the Federal Reserve Bank of Dallas, Texas.

Emile Grunberg has been promoted to associate professor of economics at Carnegie Institute of Technology.

Franz Gutmann has become lecturer emeritus in economics, University of North Carolina.

Earle M. Halvorson is instructor in business organization and management in the College of Business Administration, University of Nebraska.

Osmond L. Harline, of the University of Utah, has joined the staff of the department of economics, Indiana University.

Francis L. Hauser has been appointed associate professor of real estate, University of Florida.

Earl O. Heady has been promoted to full professorship in the department of economics and sociology, Iowa State College.

M. Kenneth Henderson has been appointed graduate instructor in economics at Tufts College.

G. E. Henry has been appointed instructor in accounting at Louisiana State University.

Jack Heysinger has been appointed instructor in business law at the University of Kansas.

George H. Hildebrand has been promoted from assistant professor to associate professor of economics at the University of California at Los Angeles.

Werner Z. Hirsch has been appointed instructor in economics at the University of California, Berkeley.

Henry G. Hodges has been appointed lecturer in industrial management, University of Florida.

Louis R. Hoffman has been appointed instructor in transportation, College of Business Administration, University of Tennessee.

Stanley E. Howard will be on leave of absence from Princeton University during the spring term.

John Hunter has been appointed graduate instructor in economics at Tufts College.

Leonid Hurwicz, formerly of Iowa State College, has been appointed research professor of economics and mathematical statistics in the Graduate College, University of Illinois.

Stanley F. Jablonski has been promoted from associate professor to professor of accounting in the School of Business Administration, University of Pittsburgh.

Harold Jensen has joined the staff of the department of economics and sociology at Iowa State College.

Brooks K. Johnson has been named chairman of the department of economics, University of Miami.

John L. Johnson, formerly of Michigan State College, has joined the staff of the University of Kentucky Bureau of Business Research.

Webster V. Johnson, of the Bureau of Agricultural Economics, conducted a seminar on land economics at the University of Virginia in the spring semester of 1948-49.

Manley H. Jones has been appointed professorial lecturer in business management in the department of business and economics, Illinois Institute of Technology, Chicago.

Myron L. Joseph has been promoted to assistant professor of economics at Carnegie Institute of Technology.

Edward E. Judy has been promoted from assistant professor to associate professor of accounting in the College of Business Administration, University of Tennessee.

C. Vernon Kane has been promoted to assistant professor of accounting, University of Miami.

J. Robert Karp, of Princeton University, has been appointed assistant professor of economics at the University of Florida.

Sanders A. Kahn has been appointed assistant professor of real estate at the University of Florida.

John W. Kennedy, of the University of North Carolina, has been appointed assistant professor of economics at the University of Florida.

Donald L. Kemmerer has been promoted to professor of economics, College of Commerce and Business Administration, University of Illinois.

Alison Kemp has been appointed lecturer in the department of political economy, University of Toronto.

R. P. Ketcham has been appointed instructor in economics at Michigan State College.

George Kleiner has been promoted to associate professor of economics in the College of Commerce and Business Administration, University of Illinois.

Paul L. Kleinsorge has been promoted to professor of economics at the University of Oregon.

William H. Knowles, of Humboldt State College, has been appointed assistant professor of economics at Michigan State College.

Frank L. Kidner has been promoted to professor of economics at the University of California, Berkeley.

Leonard J. Konopa is instructor in economics in the School of Business Administration, University of Pittsburgh.

John Korbel has been appointed instructor in economics at Lafayette College.

Theodore J. Kreps, on leave of absence from Stanford University, has been appointed staff director of the Joint Committee on the Economic Report.

Clarence E. Kuhlman has been promoted from associate professor to professor of transportation and public utilities in the College of Business Administration, University of Tennessee.

Carl Landauer has been on leave from the University of California, Berkeley, in the fall term to lecture at the Free University of Berlin.

Leonard A. Lecht, formerly of Columbia University, has accepted an assistant professorship in economics at the University of Texas.

G. E. Lent, associate professor of economics at the University of North Carolina, has been granted a leave of absence to serve as research associate on the staff of the National Bureau of Economic Research during the current year.

Charles E. Lindblom has been promoted to the rank of associate professor of economics at Yale University.

Robert G. Link has been appointed instructor in economics at Yale University.

Madelyn Lockhart, formerly instructor in economics at Ohio State University, is now research associate at the University of Kentucky Bureau of Business Research.

Santiago P. Macario, of Kansas State College, has been appointed instructor in economics at the University of Texas.

D. A. MacGibbon, former chairman of the Wheat Board of Canada, has been appointed visiting professor in the department of political economy, University of Toronto, for the current year.

Elizabeth G. Magill has been appointed to the staff of the Joint Committee on the Economic Report as a research assistant.

Jean P. Mahan has been promoted from instructor to assistant professor of economics at Tulane University.

James R. Mahoney, on leave of absence from the University of Utah, is serving as senior analyst in the Legislative Reference Service of the Library of Congress.

Arthur A. Mandel has been appointed lecturer in economics at the University of California at Los Angeles for the spring semester, 1950.

L. F. Mansfield has been appointed instructor in economics at Duke University.

William R. Matthies, formerly of Southern Illinois University, has been appointed associate professor of accounting at the University of Florida.

Davy H. McCall has been appointed instructor in economics at Western Reserve University.

J. O. McClintic has been promoted to the rank of professor of economics at San Diego State College.

J. L. McConnell has been promoted to associate professor of economics, College of Commerce and Business Administration, University of Illinois.

Robert I. Mehr has been promoted to associate professor of economics, College of Commerce and Business Administration, University of Illinois.

Lee J. Melton has been appointed instructor in economics at Louisiana State University.

Janet K. Messing has been appointed lecturer in the department of economics, Hunter College, for the current academic year.

Sebatian F. Miklas, O.F.M.Cap., has been appointed lecturer in economics in the Graduate School of Social Science, The Catholic University of America.

Charles S. Miller has been appointed professor of business organization and management in the College of Business Administration, University of Nebraska.

Donald C. Miller has been appointed instructor in economics at the University of California at Los Angeles.

Earl J. Miller has been named chairman of the department of economics at the University of California at Los Angeles.

William L. Miller is assistant professor of economics at Alabama Polytechnic Institute.

Charles N. Millican is instructor in economics at the University of Florida.

Herbert Millington has been appointed professor of marketing at the University of Miami.

George F. Mitch, of Pennsylvania State College, is interim assistant professor of economics at the University of Florida.

J. M. Mitchell, assistant professor of economics at Tulane University, has accepted a Fulbright award for research and study in France during the current academic year.

J. D. Morgan has been promoted from assistant professor to associate professor of finance at the University of Kansas.

Lloyd Morrison, of the University of North Carolina, has been appointed professor of accounting at Louisiana State University.

Will S. Myers, Jr., of Wooster College, has joined the staff of the University of Kentucky Bureau of Business Research.

Grover A. J. Noetzel has been named dean of the School of Business Administration at the University of Miami.

G. Warren Nutter has been appointed assistant professor of economics at Yale University.

Ralph H. Oakes has been promoted to the rank of professor of marketing in the College of Business Administration, Marquette University.

Guy H. Orcutt, of the International Monetary Fund, has been appointed assistant professor of economics at Harvard University.

Raymond R. Orie is instructor in accounting in the School of Business Administration, University of Pittsburgh.

John P. Owen, of Louisiana State University, has accepted a position as professor of economics at the University of Houston.

Donald W. Paden has been promoted to associate professor of economics, College of Commerce and Business Administration, University of Illinois.

Stephen S. Park has been appointed assistant professor of statistics and insurance in the College of Business Administration, Marquette University.

J. W. Parsons is an instructor in business administration at Louisiana State University.

Robert W. Patterson has been appointed instructor in rural social economics at the University of Virginia.

Walter Pearce has been appointed instructor in the College of Commerce, University of Kentucky.

William B. Peden has been appointed instructor in economics at the University of Louisville.

Dudley F. Pegrum, of the University of California at Los Angeles, has returned from a six months' leave in Washington and Europe spent in research study.

Howard S. Piquet, senior specialist in international economics of the Legislative Reference Service, Library of Congress, is visiting professor of economics at the University of Oregon in the fall term.

A. Neal Potter is on leave from State College of Washington to serve as assistant to Wilson Compton, alternate U. S. delegate to the United Nations.

Daniel A. Preston has been appointed assistant professor of economics and commerce at the University of Chattanooga.

Leonard W. Prestwich has been appointed instructor in marketing at Alabama Polytechnic Institute.

Frank A. Putz has been appointed instructor in business administration at Marquette University.

Jewell J. Rasmussen, on leave of absence from the University of Utah, is serving as consultant in the Division of Fiscal Analysis, Bureau of the Budget.

A. N. Reid, on leave from the University of Saskatchewan, is visiting lecturer in the department of political economy of the University of Toronto for the 1949-50 session.

Arthur C. Redelsheimer has been appointed instructor in economics and commerce at the University of Chattanooga.

Jim E. Reese has been promoted from associate professor to professor of economics at the University of Oklahoma.

William N. Renfroe has been appointed instructor in economics at the University of Virginia.

William B. Ricketts has been named lecturer in marketing at the University of Miami.

Raymond W. Ritland has been appointed instructor in economics at Tulane University.

Edwin C. Robbins, Jr., has returned to the University of Oregon as instructor in economics after a year's leave of absence for study.

David R. Roberts has been promoted to associate professor of economics at Carnegie Institute of Technology.

Alan J. Robertson, of the University of Missouri, has been appointed instructor in economics at the University of Florida.

Ross Robertson has been promoted from assistant professor to associate professor of economics in the College of Business Administration, University of Tennessee.

Robert M. Robinson has been lecturer in economics at the University of California, Berkeley, in the fall term.

N. R. Roos has been appointed instructor in accounting at Louisiana State University.

Kenneth D. Roose has been appointed assistant professor of economics at the University of California at Los Angeles.

W. D. Ross has been appointed associate professor of economics at Louisiana State University.

J. Everett Royer has been promoted to the rank of associate professor of accounting and assistant to the dean of the School of Business Administration at the University of Miami.

Frederick L. Ryan has been promoted to the rank of professor of economics at San Diego State College.

Richard Ruggles has been promoted to the rank of associate professor of economics at Yale University.

Frank J. Sabella, formerly of the University of Pennsylvania, has been appointed assistant professor of insurance at the University of Florida.

James S. Schindler, formerly of the University of Buffalo, has been appointed assistant professor of accounting in the School of Business and Public Administration, Washington University, St. Louis.

Wilson E. Schmidt is serving as instructor in money and banking at the University of Virginia.

Warren C. Scoville, of the University of California at Los Angeles, has returned from a year's leave spent in France where he was engaged in research study.

Francis J. Shannon, of Wayne University, has joined the staff of the University of Kentucky Bureau of Business Research.

Milton M. Shapiro has joined the staff of the economics department of the Jewish Agency for Palestine as economic analyst.

Howard D. Sharpe, Jr., has been appointed instructor in economics at Brown University.

Charles S. Sheldon has returned to his position as assistant professor of economics at the University of Washington after serving as head of the foreign trade branch of the Research and Programs Division of SCAP in Japan.

Murray W. Shields has been promoted from associate professor to professor of economics at the University of Florida.

Irving H. Siegel, chief economist, Veterans Administration, is on leave during the current academic year to be lecturer in political economy at Johns Hopkins University.

Albert J. Sievers has been appointed assistant professor and chairman of the department of accounting in the College of Business Administration, Marquette University.

Paul B. Simpson, of Stanford University, has accepted a position as associate professor of economics at the University of Oregon.

Reuben E. Slesinger has been promoted from assistant professor to associate professor of economics in the School of Business Administration, University of Pittsburgh.

William M. Slocum has been appointed instructor in economics and business administration at West Virginia University.

William J. J. Smith has been promoted to assistant professor of economics at the University of California at Los Angeles.

Warren L. Smith has been appointed instructor in economics at the University of Michigan.

Gerald G. Somers, formerly of the University of California, has been appointed assistant professor of economics and business administration at West Virginia University.

Richard E. Speagle has entered the service of the State of New York Banking Department as senior research analyst in the department of research and statistics.

Emil Spitzer has been appointed lecturer in economics in the Graduate School of Social Science, The Catholic University of America.

Augustus W. Springer, Jr., has been appointed instructor in economics at the University of Virginia.

R. L. Stallings has been promoted to associate professor of accounting at the University of North Carolina.

Edward F. Stauber has been appointed instructor in economics in the Graduate School of Social Science, The Catholic University of America.

H. Elsworth Steele, of the University of Toledo, has been appointed associate professor in industrial relations and personnel management at Alabama Polytechnic Institute.

John Stevens has been appointed instructor in business law at the University of Kansas.

Joseph Sulkowski has been advanced to the rank of associate professor of economics in the Graduate School of Social Science, The Catholic University of America.

Victor V. Sweeney, formerly of the University of California, has been appointed associate professor of insurance at the University of Florida.

Richard B. Tennant has been promoted to assistant professor of economics at Yale University.

Carey C. Thompson has returned to the University of Texas as assistant professor of economics after a year's leave of absence spent in graduate work and teaching at the University of North Carolina.

Don Thompson has been appointed instructor in business law at the University of Kansas.

W. S. Thomson has been appointed research associate and assistant to the director of the Institute of Industrial Relations, University of Toronto.

Gerhard Tintner, who has been on leave of absence at Cambridge University, England, has returned to Iowa State College as professor of economics and mathematics.

D. C. Townsend has been appointed instructor in economics at Louisiana State University.

M. L. Townsend has been promoted from assistant professor to associate professor of business law in the College of Business Administration, University of Tennessee.

B. F. Trimpe has been promoted from assistant professor to associate professor of marketing in the College of Business Administration, University of Tennessee.

Earl K. Turner has been appointed research associate in the Bureau of Business Research, College of Commerce, University of Kentucky.

Paul M. Van Arsdell has been promoted to professor of economics in the College of Commerce and Business Administration, University of Illinois.

R. H. Van Voorhis is associate professor of accounting at the University of Alabama.

Frank R. Varon has been on leave from the University of Texas in the first semester of the current academic year for research study.

P. M. Vukasin has been appointed assistant professor of economics in the College of Commerce and Business Administration, University of Illinois.

Gordon S. Watkins has resigned from the University of California at Los Angeles to accept an appointment as provost on the Riverside campus of the University of California.

V. Orval Watts has been appointed visiting professor of economics at Claremont Men's College.

Gordon W. Wells has been promoted to assistant professor of accounting at the University of Miami.

Bennett S. White, of the research division in marketing and transportation of the Bureau of Agricultural Economics, is conducting a seminar in marketing and agricultural production at the University of Virginia.

A. M. Whitehill is serving as acting assistant professor of economics at the University of North Carolina during the current academic year.

Howard W. Wissner, formerly of Alabama Polytechnic Institute, has joined the faculty of Tulane University as associate professor of economics.

Charles Wolf, Jr., is with the Division of Research for Far East, Department of State.

Louis A. Wood has retired from active duty as professor of economics at the University of Oregon after twenty-five years of service.

Wilson Wright has accepted an appointment as manager of the economic research department of Proctor and Gamble, in Cincinnati.

Howard A. Zacur has been promoted to the rank of associate professor of accounting at the University of Miami.

Herbert K. Zassenhaus has been promoted to associate professor of economics at Colgate University.

Raymond J. Ziegler, of the University of Omaha, has been appointed instructor in statistics at the University of Florida.

Lowell C. Yoder, of the University of Arkansas, has been appointed associate professor of marketing at the University of Florida.